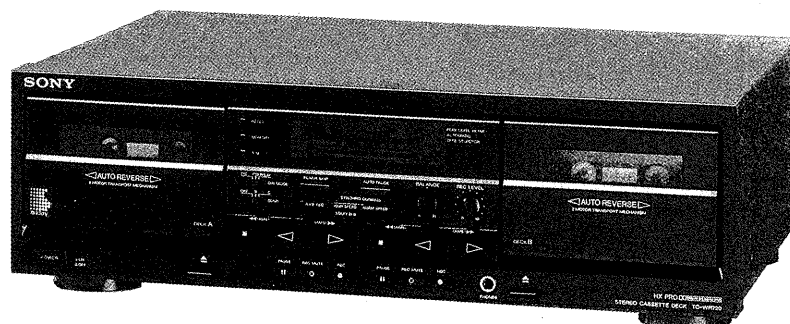


# TC-WR720/WR720A

## SERVICE MANUAL

US Model  
Canadian Model  
E Model  
TC-WR720A  
AEP Model  
TC-WR720



This photo is TC-WR720.

### SPECIFICATIONS

Recording system 4-track 2-channel stereo  
Fast winding time Approx. 90 sec. (with HF-60 cassette)  
Bias AC bias  
Signal-to-noise ratio (NAB, at peak level)

| Dolby NR switch         |  | OFF                                 | B-TYPE<br>ON | C-TYPE<br>ON |
|-------------------------|--|-------------------------------------|--------------|--------------|
| Cassette                |  |                                     |              |              |
| Type IV (Sony METAL-ES) |  | 58dB                                | 66dB         | 73dB         |
| Type II (Sony UX-S)     |  | 57dB                                | 65dB         | 72dB         |
| Type I (Sony HF-S)      |  | 55dB<br>(WR720)<br>54dB<br>(WR720A) | 63dB         | 70dB         |

Total harmonic distortion 1.0% (with Sony METAL-ES cassettes)  
Frequency response (DOLBY NR OFF)

|                                  |  |
|----------------------------------|--|
| Type IV cassette (Sony METAL-ES) | 30-18,000Hz ( $\pm 3$ dB) (WR720)<br>30-15,000Hz ( $\pm 3$ dB) (WR720A)<br>30-14,000Hz (0VU recording) (WR720)<br>30-13,000Hz (0VU recording) (WR720A) |
| Type II cassette (Sony UX-S)     | 30-17,000Hz ( $\pm 3$ dB) (WR720)<br>20-15,000Hz ( $\pm 3$ dB) (WR720A)  |
| Type I cassette (Sony HF-S)      | 30-15,000Hz ( $\pm 3$ dB) (WR720)<br>30-14,000Hz ( $\pm 3$ dB) (WR720A)  |

Wow and flutter 0.07% WRMS (NAB)  
Inputs

|                           |                 |                    |
|---------------------------|-----------------|--------------------|
| Line inputs (phono jacks) | Sensitivity     | 77.5mV ( $-20$ dB) |
|                           | Input impedance | 50kohms            |

|                                    |             |
|------------------------------------|-------------|
| Model Name Using Similar Mechanism | TC-WR620    |
| Tape Transport Mechanism Type      | TCM-190RB12 |

### Output

|                                |                    |   |
|--------------------------------|--------------------|---|
| Line outputs (phono jacks)     | Rated output level | 0.44V ( $-5$ dB) at a load impedance of 47kohms |
|                                | Load impedance     | Over 10kohms                                    |
| Headphones (stereo phono jack) | Output level       | 0.3mW at a load impedance of 32 ohms            |

### General

Power requirements 120V AC, 60Hz (US, Canadian model)  
220V AC, 50/60Hz (AEP model)  
120, 220, 240, 50/60Hz (E model)  
Power consumption 33 watts  
Dimensions Approx. 430 $\times$ 135 $\times$ 285mm (w/h/d)  
(17 $\times$ 5 $\frac{3}{8}$  $\times$ 11 $\frac{1}{4}$  inches)  
including projecting parts and controls  
Weight Approx. 5kg (11 lbs 1 oz) (WR720)  
Approx. 4.6kg (10 lbs 3 oz) (WR720A)  
Supplied accessories Audio connecting cord (2)  
Remote commander (RM-900W)  
(E model only)  
Conversion adaptor (E model only)

Design and specifications subject to change without notice.


STEREO CASSETTE DECK  
**SONY**<sup>®</sup>





## FEATURES

- The Dolby HX PRO\* system which improves the linearity of a tape's high-range response during recording.
- A relay function for long recording and playback.
- Automatic tape type detection during playback and recording.
- Auto-synchro dubbing at normal or high (double) speed.
- AMS and memory play functions which provide easy access to desired selections.
- An easy-to-read digital counter which shows the elapsed recording or playback time for decks A and B.


\*Dolby noise reduction and HX Pro headroom extension manufactured under license from Dolby Laboratories Licensing Corporation. HX Pro originated by Bang & Olufsen.

"DOLBY", the double-D symbol  and "HX PRO" are trademarks of Dolby Laboratories Licensing Corporation.

### SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK  OR DOTTED LINE WITH MARK  ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

### ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE  SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

## SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety check before releasing the set to the customer:

Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

### LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microamperes). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2V AC range are suitable. (See Fig. A)

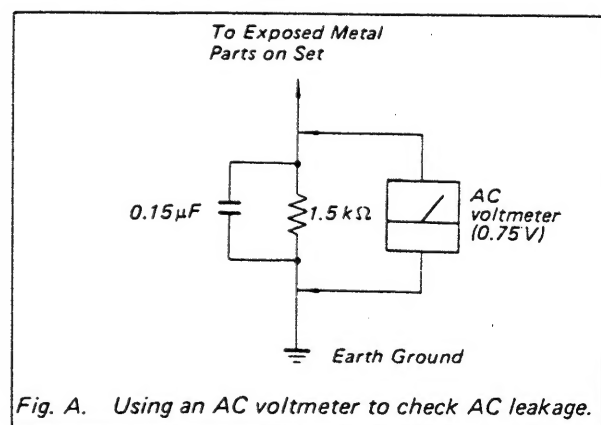
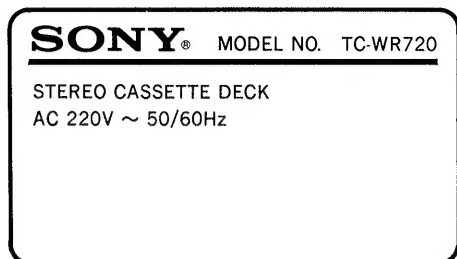


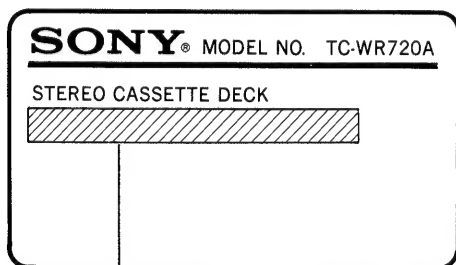
Fig. A. Using an AC voltmeter to check AC leakage.

—MODEL IDENTIFICATION—  
(Specification Label)

TC-W720: AEP, WG (West Germany) model



TC-WR720A: US, Canadian, E model



US, Canadian model: AC 120V 60Hz 33W

E model: AC 120, 220, 240V ~ 50/60Hz 33W

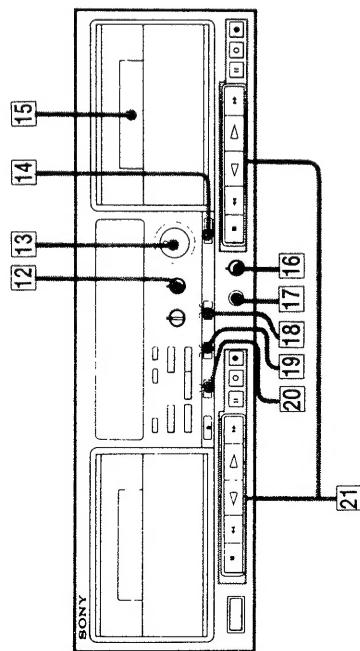
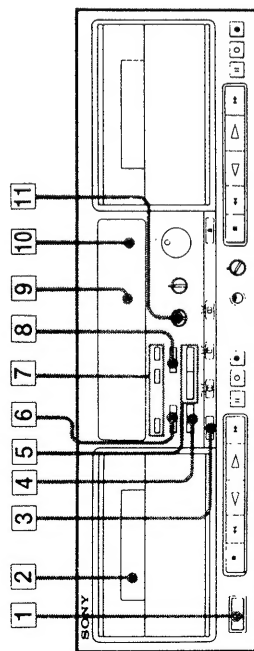
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## SECTION 1 GENERAL

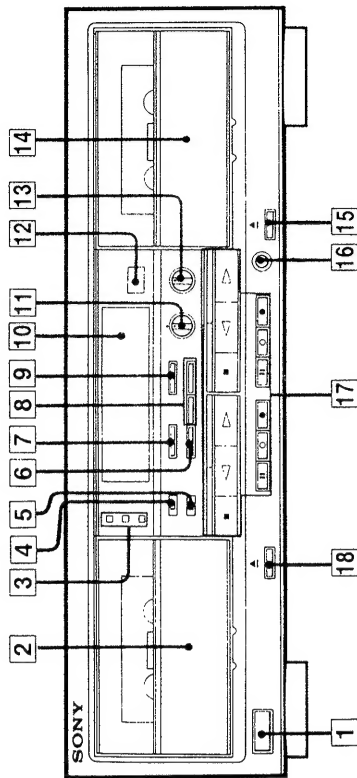
### 1-1. LOCATION AND FUNCTION OF CONTROLS



(TC-WR720)



- 1 POWER switch
- 2 Cassette holder (deck A)
- 3 ▲ eject button (deck A)
- 4 A + B REC (recording) button and indicator
- 5 SYNCHRO DUBBING buttons  
HIGH SPEED button  
NORM (normal) SPEED button
- 6 BLANK SKIP button
- 7 COUNTER buttons  
RESET button  
A/B (deck A/B) button  
MEMORY button
- 8 AUTO PAUSE button
- 9 Display panel
- 10 Remote control sensor  
You can remotely control this cassette deck with:  
— A remote commander that came with a Sony amplifier or receiver if it has the  mark and cassette deck control capability.  
— Any optional Sony remote commander with the  mark
- 11 BIAS control (deck B)
- 12 BALANCE control
- 13 REC (recording) LEVEL control
- 14 ▲ eject button (deck B)
- 15 Cassette holder (deck B)
- 16 PHONES (headphones) jack (stereo phone jack)
- 17 TAPES (headphones) LEVEL control
- 18 DIR (direction) MODE switch
- 19 TIMER switch
- 20 Tape operation buttons  
■ (stop) button  
◀ (leftward fast winding) button  
▶ (reverse play) button  
▶ (forward play) button  
▶ (rightward fast winding) button
- 21 PAUSE button
- REC MUTE (record muling) button  
● REC (recording) button

(TC-WR720A)



- 1 POWER switch
- 2 Cassette holder (deck A)
- 3 Counter buttons  
RESET button  
MEMORY button  
A/B (deck A/B) selector
- 4 DIR (direction) MODE switch
- 5 NR (Dolby noise reduction) switch
- 6 A + B REC (recording) button and indicator
- 7 BLANK SKIP button
- 8 SYNCHRO DUBBING buttons  
HIGH SPEED button  
NORM (normal) SPEED button
- 9 AUTO PAUSE button
- 10 Display panel
- 11 BALANCE control
- 12 Remote control sensor  
You can remotely control this cassette deck with:  
— A remote commander that came with a Sony amplifier or receiver if it has the  mark and cassette deck control capability.  
— Any optional Sony remote commander with the  mark
- 13 REC (recording) LEVEL control
- 14 Cassette holder (deck B)
- 15 ▲ eject button (deck B)
- 16 PHONES (headphones) jack (stereo phone jack)
- 17 Tape operation buttons  
◀ (AMS\*) (leftward fast winding) button  
▶ (AMS\*) (rightward fast winding) button  
■ (stop) button  
▶ (reverse play) button  
▶ (forward play) button  
|| PAUSE button  
○ REC MUTE (record muling) button  
● REC (recording) button
- 18 ▲ eject button (deck A)

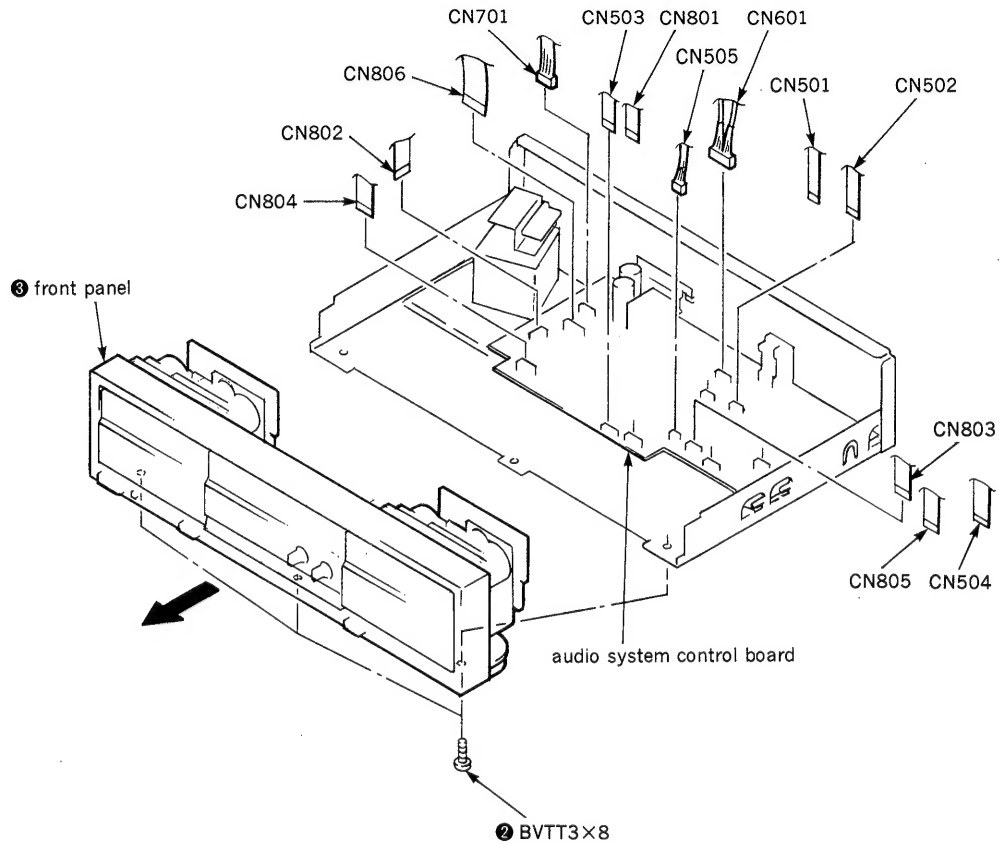
\* AMS is an abbreviation for Automatic Music Sensor

## SECTION 2 DISASSEMBLY

Note: Follow the disassembly procedure in the numerical order given.

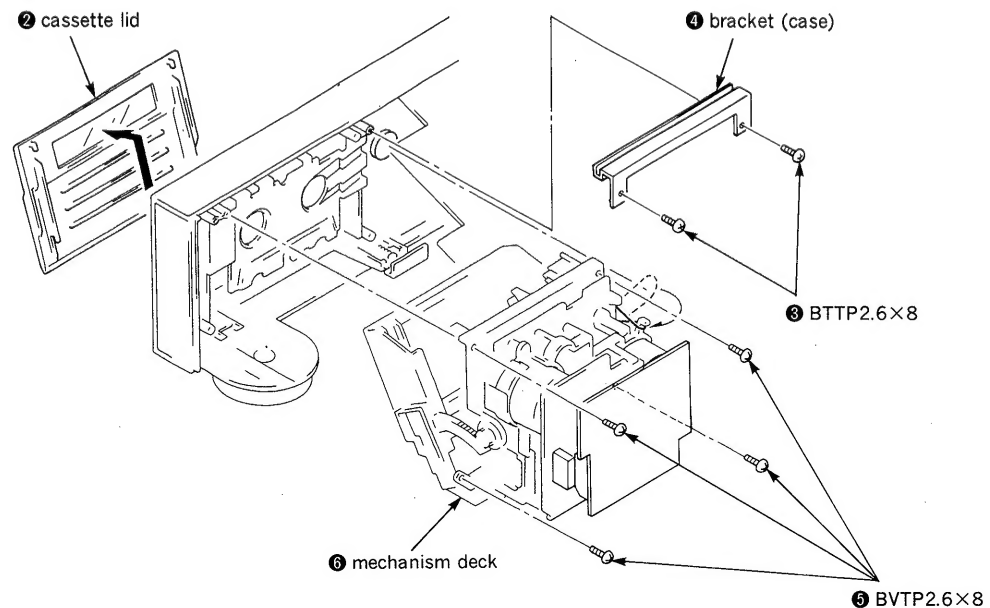
### 2-1. FRONT PANEL (WR720A)

- ① Remove the connector from audio system control board.



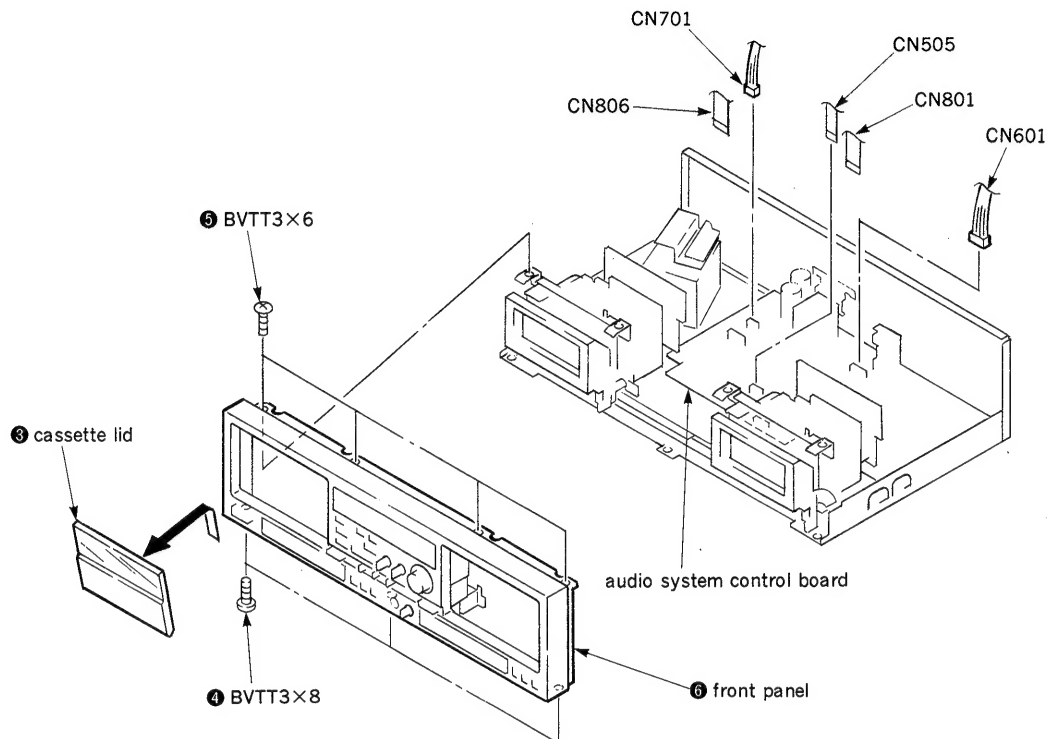
### 2-2. MECHANISM DECK (WR720A)

- ① Push the EJECT button.

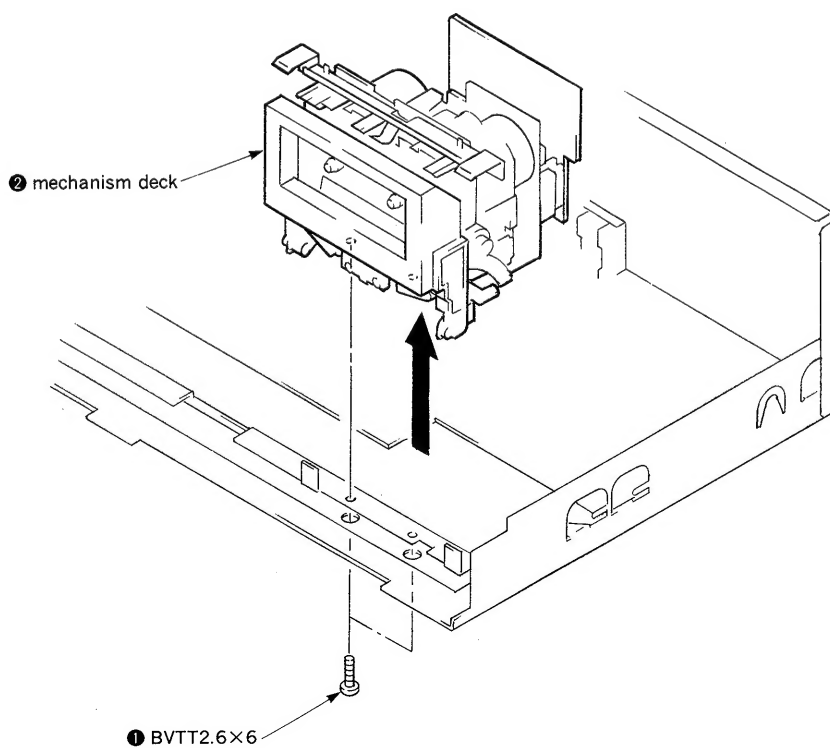


### 2-3. FRONT PANEL (WR720)

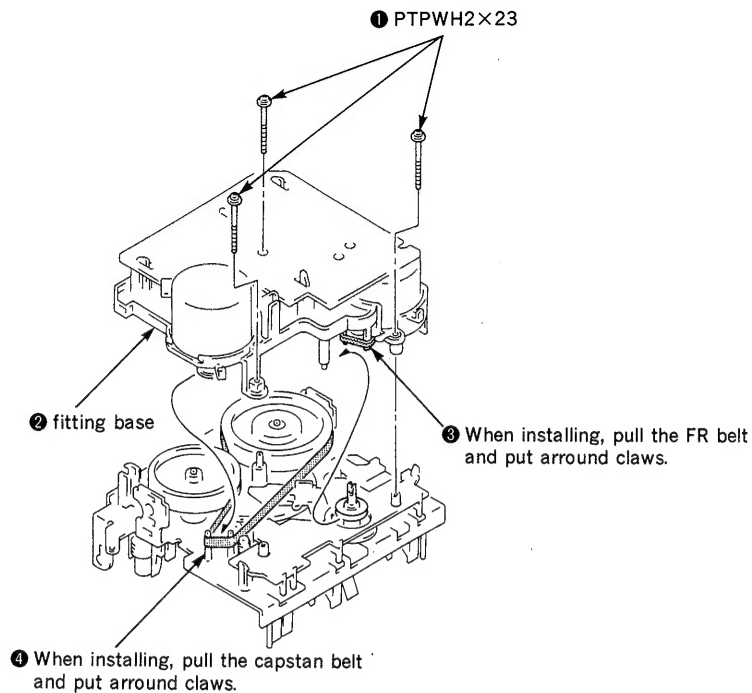
- ❶ Remove the connector from audio system control board.
- ❷ Push the EJECT button.



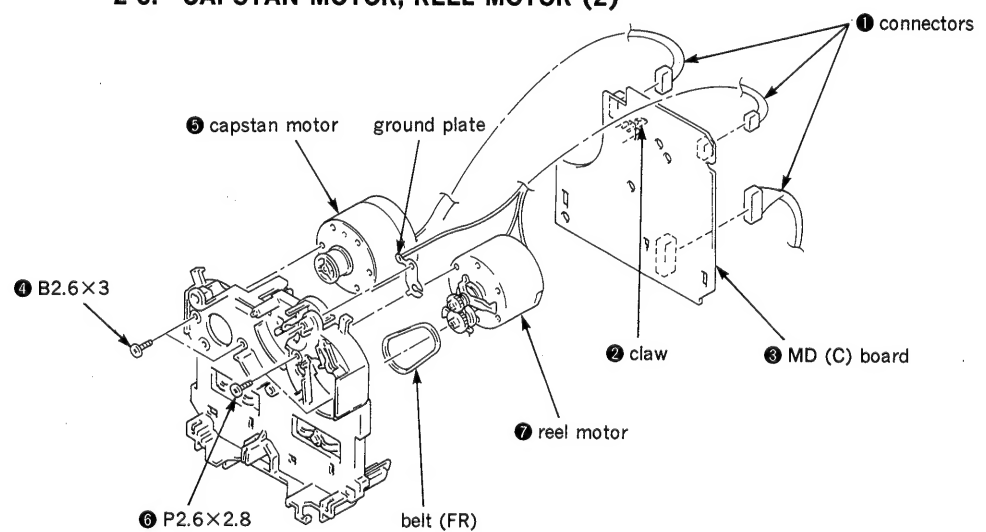
### 2-4. MECHANISM DECK (WR720)



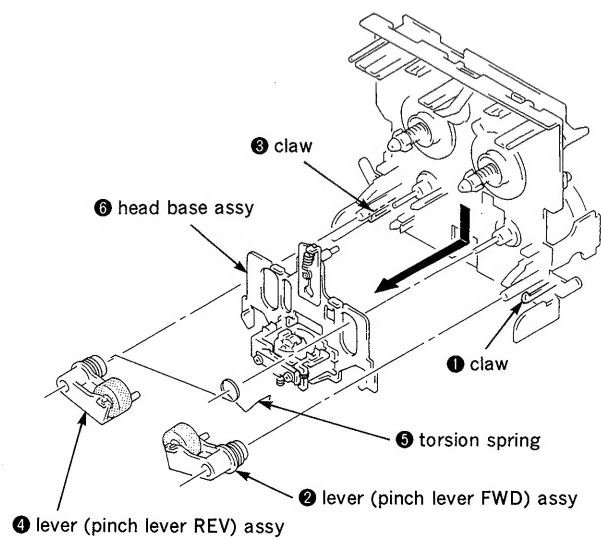
## 2-5. CAPSTAN MOTOR, REEL MOTOR (1)



## 2-6. CAPSTAN MOTOR, REEL MOTOR (2)



## 2-7. HEAD, PINCH ROLLER



## SECTION 3 MECHANICAL ADJUSTMENTS

### PRECAUTION

- Clean the following parts with a denatured alcohol-moistened swab :
 

|                      |              |
|----------------------|--------------|
| record/playback head | pinch roller |
| erase head           | rubber belts |
| capstan              | idlers       |
- Demagnetize the record/playback head with a head demagnetizer.  
(Head demagnetizer do not approach for the erase head.)
- Do not use a magnetized screwdriver for the adjustment.
- After the adjustments, apply suitable locking compound to the parts adjusted.
- The adjustments should be performed with the rated power supply voltage unless otherwise noted.

### Torque Measurement

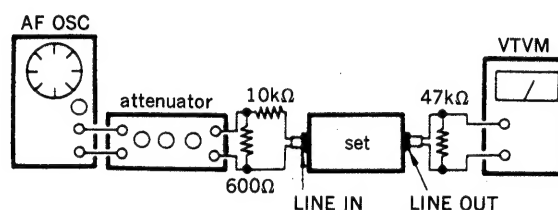
| Torque                  | Torque meter | Meter reading                           |
|-------------------------|--------------|---|
| Forward                 | CQ-102C      | 30 to 65g·cm<br>(0.42 to 0.90 oz·inch)  |
| Forward<br>back tension | CQ-102C      | 1 to 6g·cm<br>(0.014 to 0.08 oz·inch)   |
| Reverse                 | CQ-102RC     | 30 to 65g·cm<br>(0.42 to 0.90 oz·inch)  |
| Reverse<br>back tension | CQ-102RC     | 1 to 6g·cm<br>(0.014 to 0.08 oz·inch)   |
| Forward,<br>Reverse     | CQ-201B      | 70 to 120g·cm<br>(0.98 to 1.67 oz·inch) |

## SECTION 4 ELECTRICAL ADJUSTMENTS

### PRECAUTION

- The adjustment should be performed in the publication.  
(Be sure to make playback adjustment at first.)
- The adjustment and measurement should be performed for both L-CH and R-CH.
  - Switch position  
DOLBY NR switch : OFF  
DIR MODE switch :  $\Rightarrow$
  - Standard record position  
Deliver the standard input signal level to input jack and set the REC LEVEL control to obtain the standard output signal level as follows.

—Record Mode—



### Standard Input Level

| Input terminal     | LINE IN       |
|--------------------|---------------|
| source impedance   | 10kΩ          |
| input signal level | 0.25V (−10dB) |

### Standard Output Level

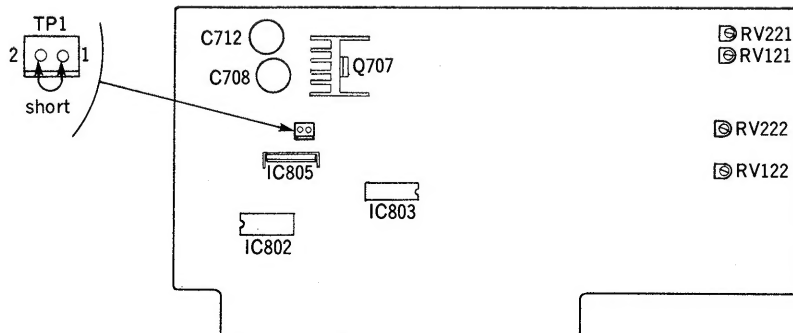
| Output terminal     | LINE OUT     |
|---------------------|--------------|
| load impedance      | 47kΩ         |
| output signal level | 0.44V (−5dB) |

### Test Tape

| Tape     | Contents     | Use                   |
|----------|--------------|-----------------------|
| P-4-A100 | 10kHz, −10dB | Azimuth Adjustment    |
| P-4-L300 | 315Hz, 0dB   | Level Adjustment      |
| WS-48B   | 3kHz, 0dB    | Tape Speed Adjustment |

- Prior to electrical adjustments, short the connector TP1 (test mode).

audio system control board —component side—





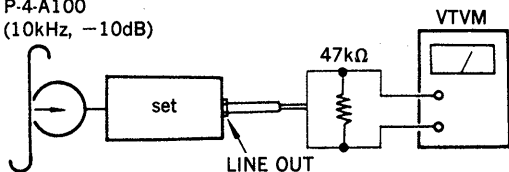
## Record/Playback Head Azimuth Adjustment

### DECK A DECK B

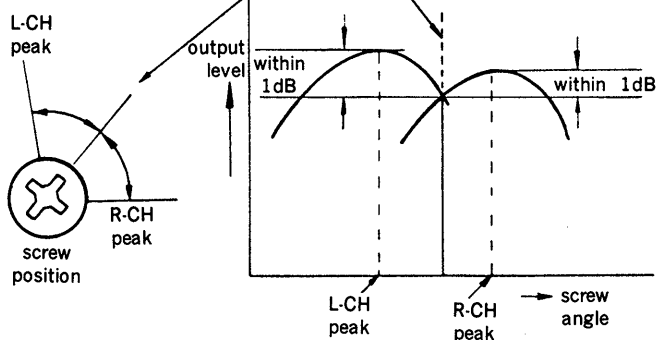
#### Procedure :

1. Reverse Playback Mode

test tape  
P-4-A100  
(10kHz, -10dB)

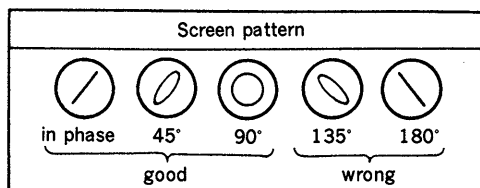
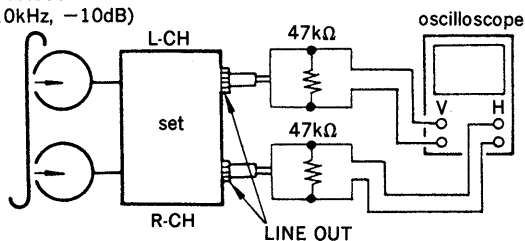


2. Turn the adjustment screw for the maximum output levels. If these levels do not match, turn the adjustment screw until both of output levels match together within 1dB.



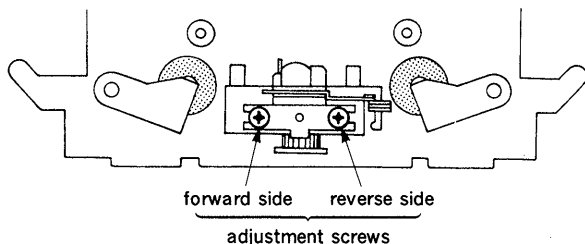
3. Playback Mode

test tape  
P-4-A100  
(10kHz, -10dB)



4. Change the forward playback mode and repeat the steps 1 to 3.
5. After the adjustment, lock the adjustment screws with suitable locking compound.

Adjustment Location : —record/playback head—



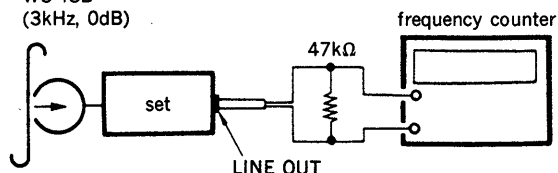
## Tape Speed Adjustment DECK A DECK B

Perform high speed adjustment before normal speed adjustment.

#### Procedure :

—Forward Playback Mode—

test tape  
WS-48B  
(3kHz, 0dB)



(high speed adjustment)

1. Keep on pressing the SYNCHRO DUBBING HIGH SPEED switch.
2. Confirm that the frequency counter reading becomes within adjustment limits of  $6,000 \pm 60\text{Hz}$  on both of deck A and deck B.
3. If the adjustment limits are not satisfied, adjust each RV72 so that the frequency counter reading becomes within adjustment limits of  $6,000 \pm 30\text{Hz}$  on both of deck A and deck B.
4. Change the reverse playback mode and repeat the steps 1 to 3.

(normal speed adjustment)

5. Keep on pressing the SYNCHRO DUBBING NORM SPEED switch.
6. Confirm that the frequency counter reading becomes within adjustment limits of  $3,000 \pm 30\text{Hz}$  on both of deck A and deck B.
7. If the adjustment limits are not satisfied, adjust each RV71 so that the frequency counter reading becomes within adjustment limits of  $3,000 \pm 15\text{Hz}$  on both of deck A and deck B.
8. Change the reverse playback mode and repeat the steps 5 to 7.

Frequency difference between the beginning and the end of the tape should be within 3%.

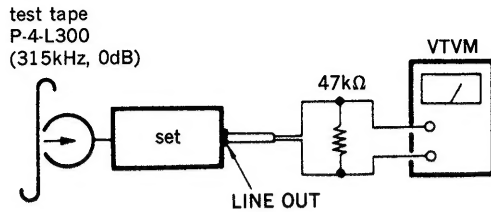
Frequency difference between deck A and deck B the beginning of the tape should be within 1.5%.

Adjustment Location : MD (C) board (deck A, deck B)

## Playback Level Adjustment DECK A DECK B

### Procedure :

—Forward Playback Mode—



Adjust each RV11 (L-CH) and RV21 (R-CH) so that the VTVM reading becomes within adjustment limits below on both of deck A and deck B.

### Adjustment Limits :

LINE OUT level :  $-15 \pm 0.5\text{dB}$  (0.130 to 0.146V)

Level difference between channels : within 0.5dB

Confirm the LINE OUT level does not change in playback mode while changing the mode from playback to stop several times.

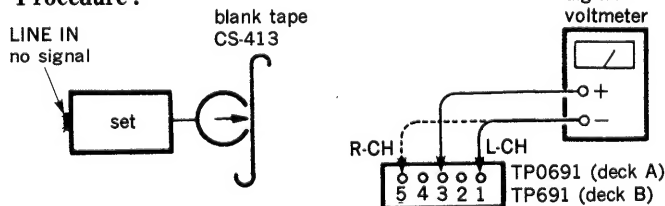
**Adjustment Location :** MD(C) board (deck A, deck B)

## Bias Consumption Current Adjustment

### DECK A DECK B

This adjustment should be performed when replacing the head assy or step-up transformer (T0391, 0491 (deck A) and T391, 491 (deck B)), or DOLBY HX-PRO IC (IC0691 (deck A) and IC691 (deck B)).

### Procedure :



(deck A)

1. Connect the digital voltmeter to test point TP0691.
2. Set RV0391 (L-CH) and RV0491 (R-CH) to mechanical center.
3. Set to forward record mode.
4. Adjust T0391 (L-CH) and T0491 (R-CH) so that the digital voltmeter reading becomes minimum.

(deck B)

5. Similarly, connect the digital voltmeter to test point TP691.
6. Set RV391 (L-CH) and RV491 (R-CH) to mechanical center.
7. Set to forward record mode.
8. Adjust T391 (L-CH) and T491 (R-CH) so that the digital voltmeter reading becomes minimum.

**Adjustment Location :** HX-PRO board (A) (deck A),  
HX-PRO board (B) (deck B)

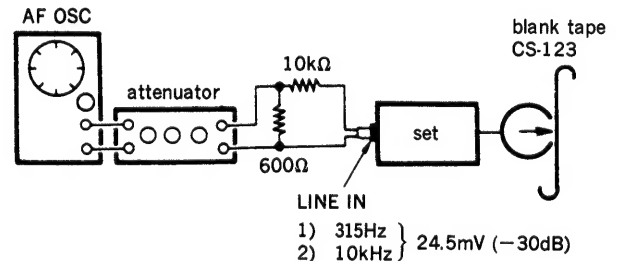
## Record Bias Adjustment DECK A DECK B

### Setting :

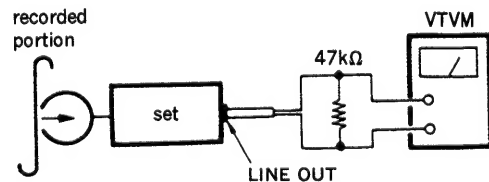
REC LEVEL control : standard record position (Refer to page 8.)

### Procedure :

1. Record Mode



2. Playback Mode



(deck A)

3. Playback the signal recorded in step 1, and confirm that the 10kHz playback output level is VTVM reading becomes within adjustment limits below relative to the 315Hz output.
4. If the adjustment limits are not satisfied, adjust each RV0391 (L-CH) and RV0491 (R-CH) so that the VTVM reading becomes within adjustment limits on next page.

(deck B)

5. Similarly, playback the signal recorded in step 1, and confirm that the 10kHz playback output level is VTVM reading becomes within adjustment limits below relative to the 315Hz output.
6. If the adjustment limits are not satisfied, adjust each RV391 (L-CH) and RV491 (R-CH) so that the VTVM reading becomes within adjustment limits on next page.

**Adjustment Limits :**

10kHz playback output

relative to the 315Hz output :  $0 \pm 0.5\text{dB}$ 

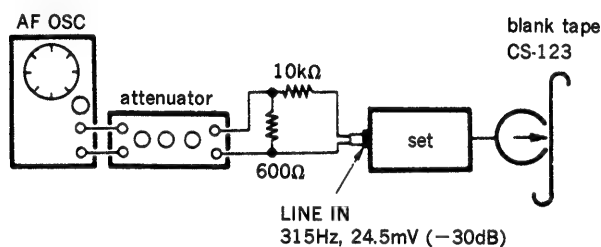
(0.732 to 0.82IV)

**Adjustment Location :** audio system control board**Record Level Adjustment****DECK A****DECK B****Setting :**

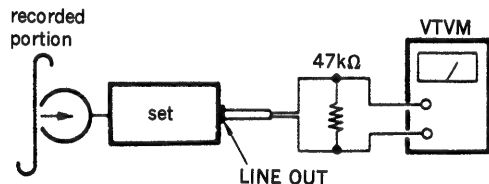
REC LEVEL control: standard record position (Refer to page 8.)

**Procedure :**

## 1. Record Mode



## 2. Playback Mode



(deck A)

3. Playback the signal recorded in step 1, and confirm that the 10kHz playback output level is VTVM reading becomes within adjustment limits below relative to the 315Hz output.

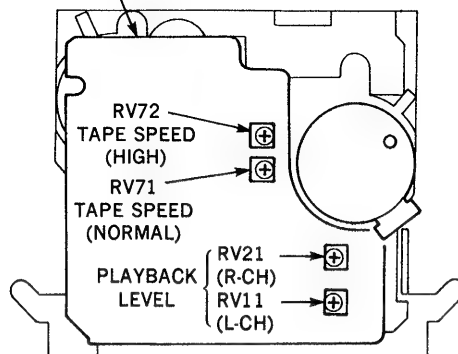
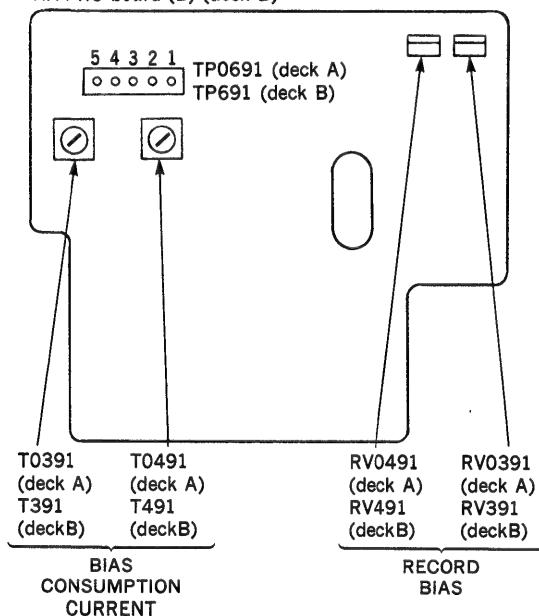
4. If the adjustment limits are not satisfied, adjust each RV121 (L-CH) and RV221 (R-CH) so that the VTVM reading becomes within adjustment limits below.

(deck B)

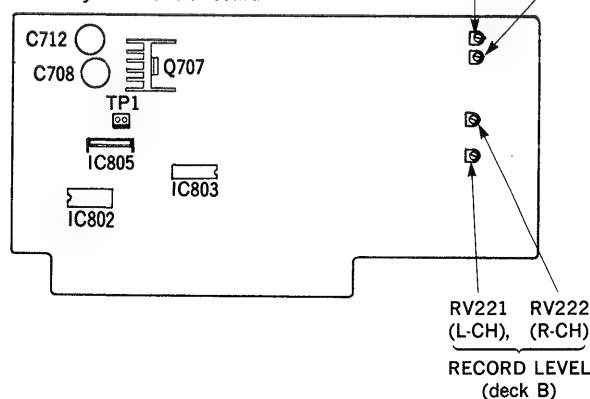
5. Similarly, playback the signal recorded in step 1, and confirm that the 10kHz playback output level is VTVM reading becomes within adjustment limits below relative to the 315Hz output.
6. If the adjustment limits are not satisfied, adjust each RV122 (L-CH) and RV222 (R-CH) so that the VTVM reading becomes within adjustment limits below.

**Adjustment Limits :**315Hz playback output level :  $-25 \pm 0.5\text{dB}$  (42 to 46mV)**Adjustment Location :** audio system control board**Note :** After adjustment, open the connector TP1.**—Adjustment Parts Location Diagrams—**

MD (C) board (deck A, deck B)

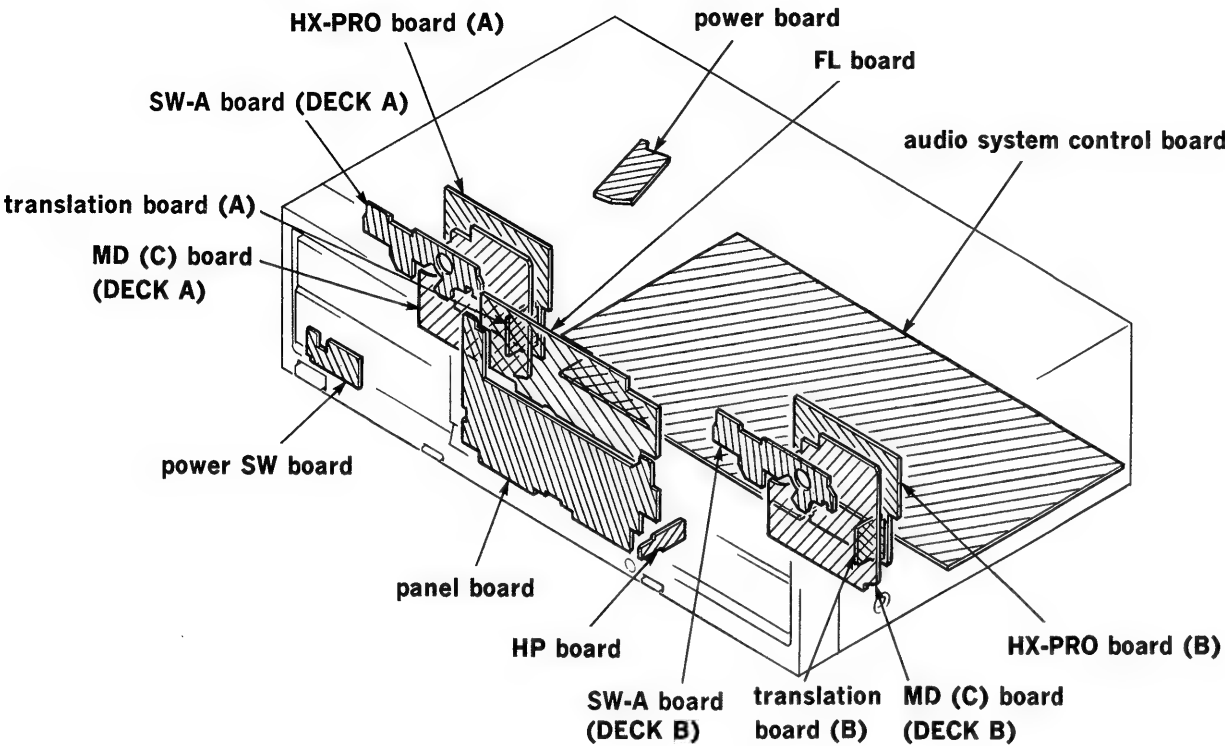
HX-PRO board (A) (deck A),  
HX-PRO board (B) (deck B)RECORD LEVEL  
(deck A)RV121 RV122  
(L-CH), (R-CH)

audio system control board

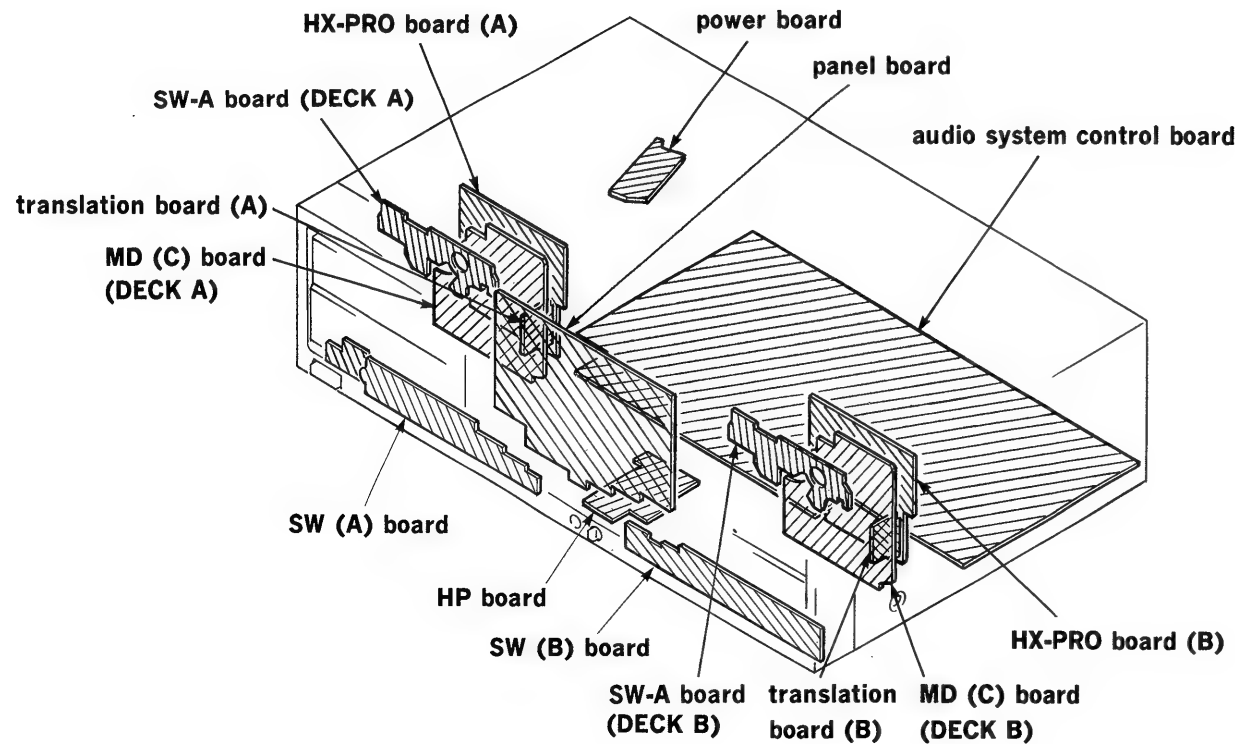


SECTION 5  
DIAGRAMS

5-1. CIRCUIT BOARDS LOCATION  
(TC-WR720A)



(TC-WR720)



5-2. SEMICONDUCTOR LEAD LAYOUTS

DTA114ES  
DTA144ES  
DTC114ES  
DTC143TS  
DTC144ES  
DTC144WS  
2SC2603-EF  
2SD1012-FG



2SA1317-S  
2SA1317-STU  
2SB1013-4  
2SC945-P



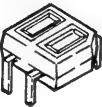
2SB1187-EF



2SD1761-EF



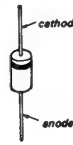
GP-2S09-C



HZS6A1L  
HZS9A2L  
UZL-11L2  
UZL-7H1  
UZL-7L2  
1SS202-1



10E2N



SEL2210S



● Semiconductor Location

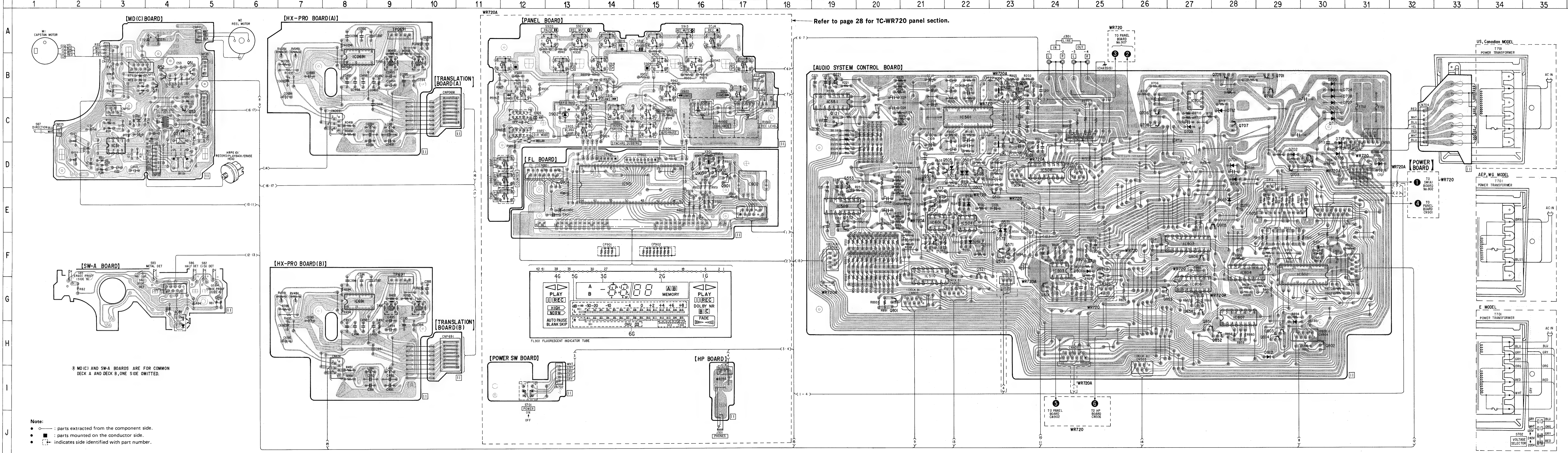
| Ref. No.  | Location | Ref. No. | Location |
|-----------|----------|----------|----------|
| D31       | C-4      | Q51      | B-4      |
| D131      | E-22     | Q52      | B-4      |
| D231      | F-22     | Q53      | C-4      |
| D501(*1)  | D-22     | Q71      | B-4      |
| D502      | D-22     | Q101     | D-23     |
| D503      | D-22     | Q102(*1) | D-23     |
| D571      | E-23     | Q121     | C-19     |
| D572      | E-23     | Q171     | E-21     |
| D601      | D-28     | Q201     | B-23     |
| D602      | E-28     | Q202(*1) | B-23     |
| D701      | D-28     | Q221     | B-19     |
| D702      | D-29     | Q271     | F-21     |
| D703      | D-30     | Q501     | E-23     |
| D704      | B-30     | Q502     | D-22     |
| D705      | B-30     | Q503(*1) | D-22     |
| D706      | D-31     | Q504     | D-21     |
| D707      | C-30     | Q505     | D-21     |
| D708      | C-30     | Q521     | F-22     |
| D709      | C-27     | Q551     | F-22     |
| D710      | C-30     | Q552     | E-19     |
| D711      | C-30     | Q553     | D-19     |
| D712      | C-28     | Q571     | F-23     |
| D713      | D-30     | Q572     | F-23     |
| D801      | F-25     | Q601     | G-24     |
| D811      | H-29     | Q701     | B-29     |
| D812      | H-29     | Q702     | B-29     |
| D902(*2)  | C-13     | Q703     | D-29     |
| IC31      | D-3      | Q704     | D-30     |
| IC81      | G-4      | Q705     | B-28     |
| IC501     | C-22     | Q706     | C-26     |
| IC503     | F-24     | Q707     | C-28     |
| IC504     | E-22     | Q801     | G-20     |
| IC506     | D-24     | Q802     | H-30     |
| IC509     | E-19     | Q803     | H-29     |
| IC510     | F-21     | Q804     | H-29     |
| IC551     | C-19     | Q805     | E-28     |
| IC601(*2) | E-21     | Q806     | F-27     |
| IC691     | G-8      | Q807     | F-25     |
| IC701     | C-27     | Q851     | H-27     |
| IC802     | F-29     | Q852     | H-28     |
| IC803     | F-27     | Q853     | G-26     |
| IC804     | F-28     | Q854     | G-27     |
| IC805     | E-29     | Q891     | G-25     |
| IC806     | G-27     | Q901(*2) | D-17     |
| IC807     | G-28     | Q902(*2) | D-16     |
| IC901(*2) | D-14     | Q903(*2) | D-16     |
| IC902(*2) | D-17     | Q904(*2) | D-13     |
| IC0691    | B-8      |          |          |

\* 1 : Used on TC-WR720 only.

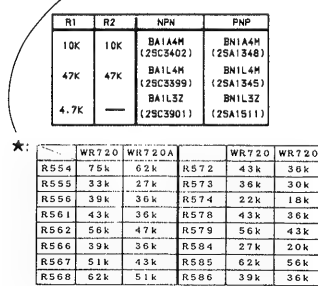
\* 2 : Used on TC-WR720A only.

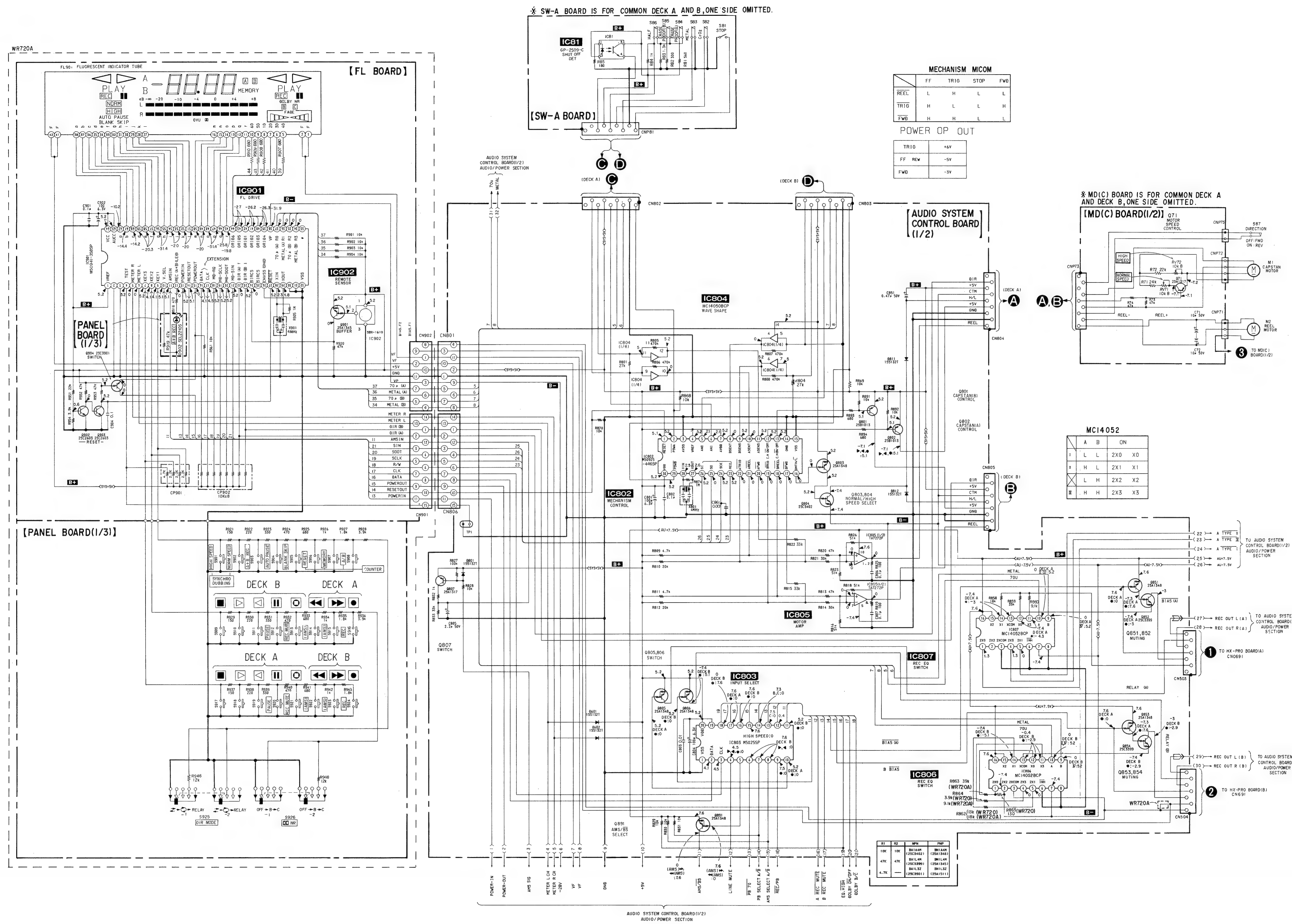


5-3. PRINTED WIRING BOARDS —MAIN SECTION— •Refer to page 13 for Semiconductor Lead Layouts and Semiconductor Location.









**Note:**

- All capacitors are in  $\mu\text{F}$  unless otherwise noted. pF:  $\mu\mu\text{F}$  50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in  $\Omega$  and  $\frac{1}{2}\mu\Omega$  or less unless otherwise specified.
- $\triangle$  : internal component.
- : adjustment for repair.
- Voltage is dc with respect to ground under no-signal conditions.
- no mark: POWER ON
- $\blacktriangleleft$  : FWD     $\blacktriangleleft$  : REV    ● : REC
- Voltages are taken with a VOM (input impedance 10M $\Omega$ ). Voltage variations may be noted due to normal production tolerances.
- Signal path.

$\Sigma$  : REC (DECK A)  
 $\Rightarrow$  : REC (DECK B)



[illegible]

- All capacitors are in  $\mu\text{F}$  unless otherwise noted.  $\text{pF}$ :  $\mu\text{F}$ : 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in  $\Omega$  and  $\frac{1}{4}\text{W}$  or less unless otherwise specified.
- $\Delta$  : internal component.
- Voltage is dc with respect to ground under no-signal conditions.  
no mark: POWER ON
- Voltages are taken with a VOM (Input Impedance 10M $\Omega$ ). Voltage variations may be noted due to normal production tolerances.

**[POWER SW BOARD]**

S701  
POWER

**[SW(A) BOARD]**

S917 S918 S919 S920 S921 S922 S923 S924 S925 S926 S927 S928 S929 S930 S931 S932 S933 S934 S935 S936 S937 S938 S939 S940 S941 S942 S943 S944 S945 S946 S947 S948 S949 S950 S951 S952 S953 S954 S955 S956 S957 S958 S959 S960 S961 S962 S963 S964 S965 S966 S967 S968 S969 S970 S971 S972 S973 S974 S975 S976 S977 S978 S979 S980 S981 S982 S983 S984 S985 S986 S987 S988 S989 S990 S991 S992 S993 S994 S995 S996 S997 S998 S999 S1000

**[SW(B) BOARD]**

S922 S923 S924 S925 S926 S927 S928 S929 S930 S931 S932 S933 S934 S935 S936 S937 S938 S939 S940 S941 S942 S943 S944 S945 S946 S947 S948 S949 S950 S951 S952 S953 S954 S955 S956 S957 S958 S959 S960 S961 S962 S963 S964 S965 S966 S967 S968 S969 S970 S971 S972 S973 S974 S975 S976 S977 S978 S979 S980 S981 S982 S983 S984 S985 S986 S987 S988 S989 S990 S991 S992 S993 S994 S995 S996 S997 S998 S999 S1000

**[PANEL BOARD]**

S927 TIMER REC-OFF-PLAY  
S925 DIR MODE RELAY  
S926 NR OFF-B-C  
S927 NR OFF-B-C  
S928 NR OFF-B-C  
S929 NR OFF-B-C  
S930 NR OFF-B-C  
S931 NR OFF-B-C  
S932 NR OFF-B-C  
S933 NR OFF-B-C  
S934 NR OFF-B-C  
S935 NR OFF-B-C  
S936 NR OFF-B-C  
S937 NR OFF-B-C  
S938 NR OFF-B-C  
S939 NR OFF-B-C  
S940 NR OFF-B-C  
S941 NR OFF-B-C  
S942 NR OFF-B-C  
S943 NR OFF-B-C  
S944 NR OFF-B-C  
S945 NR OFF-B-C  
S946 NR OFF-B-C  
S947 NR OFF-B-C  
S948 NR OFF-B-C  
S949 NR OFF-B-C  
S950 NR OFF-B-C  
S951 NR OFF-B-C  
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S971 NR OFF-B-C  
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S973 NR OFF-B-C  
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S975 NR OFF-B-C  
S976 NR OFF-B-C  
S977 NR OFF-B-C  
S978 NR OFF-B-C  
S979 NR OFF-B-C  
S980 NR OFF-B-C  
S981 NR OFF-B-C  
S982 NR OFF-B-C  
S983 NR OFF-B-C  
S984 NR OFF-B-C  
S985 NR OFF-B-C  
S986 NR OFF-B-C  
S987 NR OFF-B-C  
S988 NR OFF-B-C  
S989 NR OFF-B-C  
S990 NR OFF-B-C  
S991 NR OFF-B-C  
S992 NR OFF-B-C  
S993 NR OFF-B-C  
S994 NR OFF-B-C  
S995 NR OFF-B-C  
S996 NR OFF-B-C  
S997 NR OFF-B-C  
S998 NR OFF-B-C  
S999 NR OFF-B-C  
S1000 NR OFF-B-C

**[HP BOARD]**

J501 PHONES  
RV503  
CN501  
CN502  
CN503  
CN504  
CN505  
CN506  
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CN508  
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CN600

**• Semiconductor Location**

| Ref. No. | Location |
|----------|----------|
| D902     | E-2      |
| IC601    | D-9      |
| IC901    | G-4      |
| IC902    | G-7      |
| Q901     | F-7      |
| Q902     | F-6      |
| Q903     | F-6      |
| Q904     | F-2      |
| Q905     | H-6      |
| Q906     | H-5      |
| Q907     | H-5      |
| Q908     | H-5      |

Note:  
○ : parts extracted from the component side.

● ○ — : parts extracted from the component side.



## SECTION 6 EXPLODED VIEWS

### NOTE:

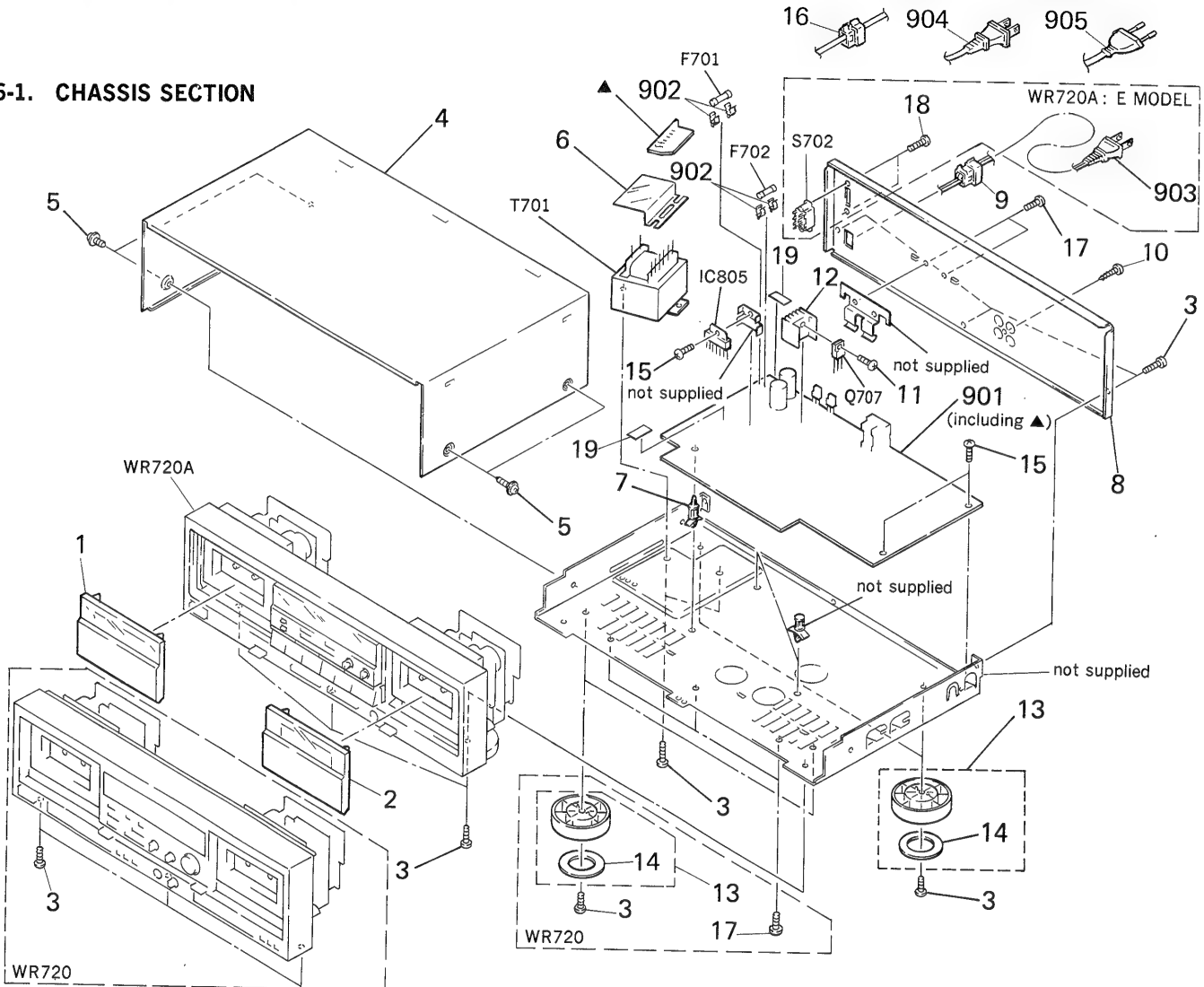
- The mechanical parts with no reference number in the exploded views are not supplied.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

- Due to standardization, parts with part number suffix -XX and -X may be different from the parts specified in the components used on the set.
- Color Indication of Appearance Parts  
Example:  
(RED) ... KNOB, BALANCE (WHITE)  
↑ Cabinet's Color                      ↑ Parts' Color
- WG... West Germany model.

The components identified by mark ▲ or dotted line with mark ▲ are critical for safety. Replace only with part number specified.

Les composants identifiés par une marque ▲ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

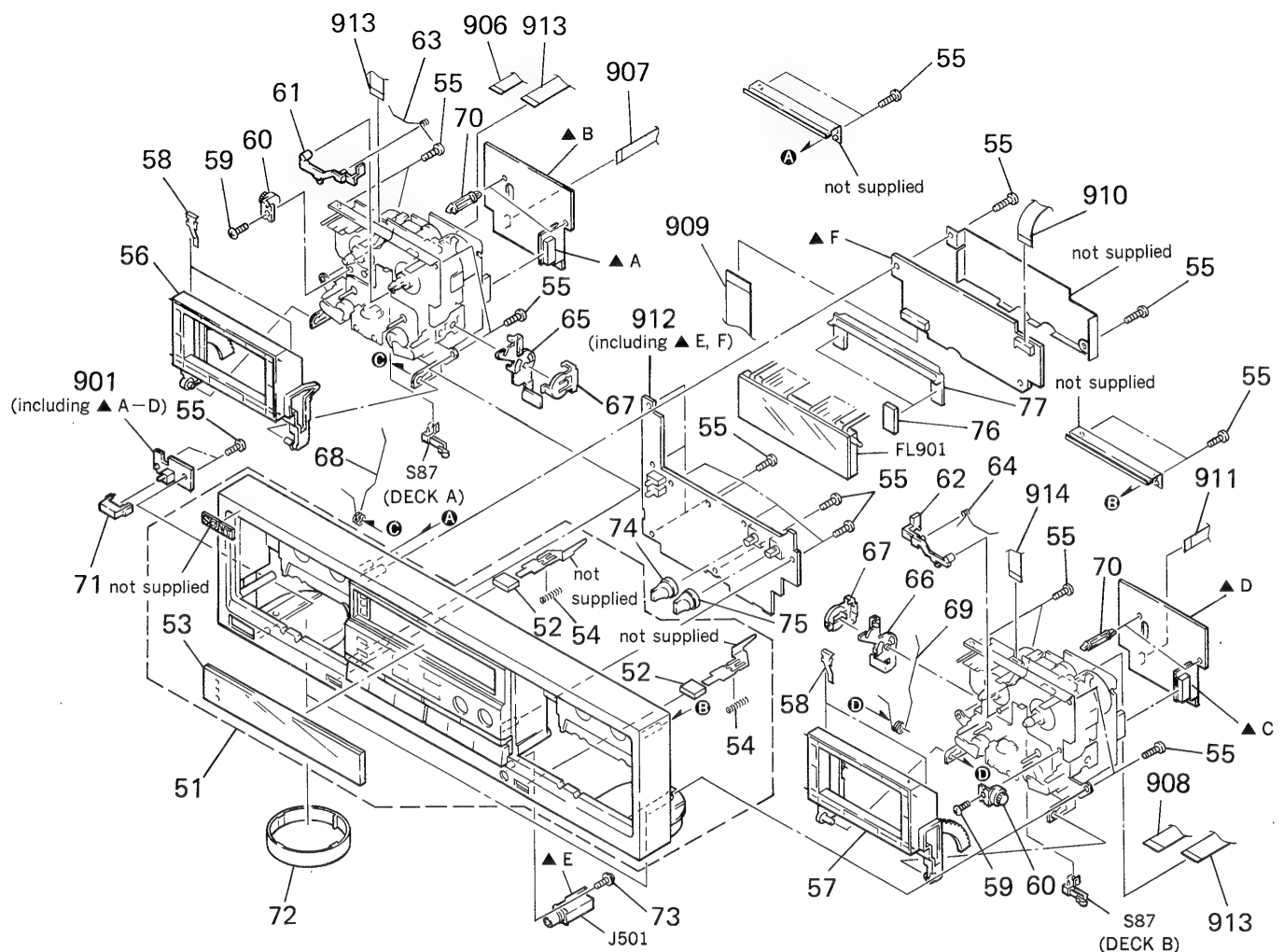
### 6-1. CHASSIS SECTION



| Ref.No | Part No.      | Description                          | Remarks |
|--------|---------------|--------------------------------------|---------|
| 1      | X-3346-323-1  | (WR720)....LID (A) ASSY, CASSETTE    |         |
| 1      | X-3362-043-1  | (WR720A)....LID (A) ASSY, CASSETTE   |         |
| 2      | X-3346-324-1  | (WR720)....LID (B) ASSY, CASSETTE    |         |
| 2      | X-3362-044-1  | (WR720A)....LID (B) ASSY, CASSETTE   |         |
| 3      | 7-682-548-09  | SCREW +BVTT 3X8 (S)                  |         |
| 4      | ★4-929-294-42 | CASE                                 |         |
| 5      | 3-704-366-01  | SCREW (CASE) (M3X8)                  |         |
| 6      | ★3-337-136-11 | COVER, TRANSFORMER SAFETY            |         |
| 7      | ★3-346-265-11 | HOLDER, PC BOARD                     |         |
| 8      | ★3-354-920-31 | (WR720)....PANEL, BACK               |         |
| 8      | ★3-354-947-01 | (US, Canadian)....PANEL, BACK        |         |
| 8      | ★3-354-947-21 | (E)....PANEL, BACK                   |         |
| 9      | ★3-703-571-11 | (WR720A)....BUSHING (S) (4516), CORD |         |
| 10     | 7-621-849-00  | SCREW, TAPPING                       |         |
| 11     | 7-685-646-79  | SCREW +BVTP 3X8 TYPE2 IT-3           |         |
| 12     | 4-363-147-00  | HEAT SINK, H.PIN                     |         |
| 13     | X-3304-938-2  | (AEP, WG, E)....FOOT ASSY            | 14      |
| 13     | X-4885-950-1  | (US, Canadian)....FOOT ASSY          | 14      |
| 14     | 4-923-836-11  | CUSHION                              |         |
| 15     | 7-682-547-04  | SCREW +BVTT 3X6                      |         |
| 16     | 3-703-244-00  | (WR720)....BUSHING (2104), CORD      |         |
| 17     | 7-682-547-09  | SCREW +BVTT 3X6                      |         |

| Ref.No | Part No.      | Description                                      | Remarks |
|--------|---------------|--|---------|
| 18     | 7-685-534-19  | (E)....SCREW +BTP 2.6X8 TYPE2 N-S                |         |
| 19     | ★3-701-947-13 | (AEP, WG, E)....LABEL (T1.6A), FUSE              |         |
| 901    | ★A-2006-254-A | (WR720A)....MOUNTED PCB, AUDIO SYSTEM CONTROL    |         |
| 901    | ★A-2006-258-A | (WR720)....MOUNTED PCB, AUDIO SYSTEM CONTROL     |         |
| 902    | ★1-533-213-31 | HOLDER, FUSE                                     |         |
| 903    | ▲1-551-188-XX | (E)....CORD, POWER                               |         |
| 904    | ▲1-551-506-XX | (US, Canadian)....CORD, POWER                    |         |
| 905    | ▲1-555-795-00 | (AEP, WG)....CORD, POWER, EULO PLUG              |         |
| F701   | ▲1-532-259-00 | (AEP, WG, E)....FUSE, TIME-LAG (T1.6A/250V)      |         |
| F701   | ▲1-532-742-11 | (US, Canadian)....FUSE, GLASS TUBE (1.6A/125V)   |         |
| F702   | ▲1-532-259-00 | (AEP, WG, E)....FUSE, TIME-LAG (T1.6A/250V)      |         |
| F702   | ▲1-532-742-11 | (US, Canadian)....FUSE, GLASS TUBE (1.6A/125V)   |         |
| IC805  | 8-759-207-05  | IC TA7272P                                       |         |
| Q707   | 8-729-920-98  | TRANSISTOR 2SD1761-EF                            |         |
| S702   | ▲1-570-307-11 | (E)....SWITCH, VOLTAGE CHANGE (VOLTAGE SELECTOR) |         |
| T701   | ▲1-450-147-11 | (US, Canadian)....TRANSFORMER, POWER             |         |
| T701   | ▲1-450-148-11 | (AEP, WG)....TRANSFORMER, POWER                  |         |
| T701   | ▲1-450-191-11 | (E)....TRANSFORMER, POWER                        |         |

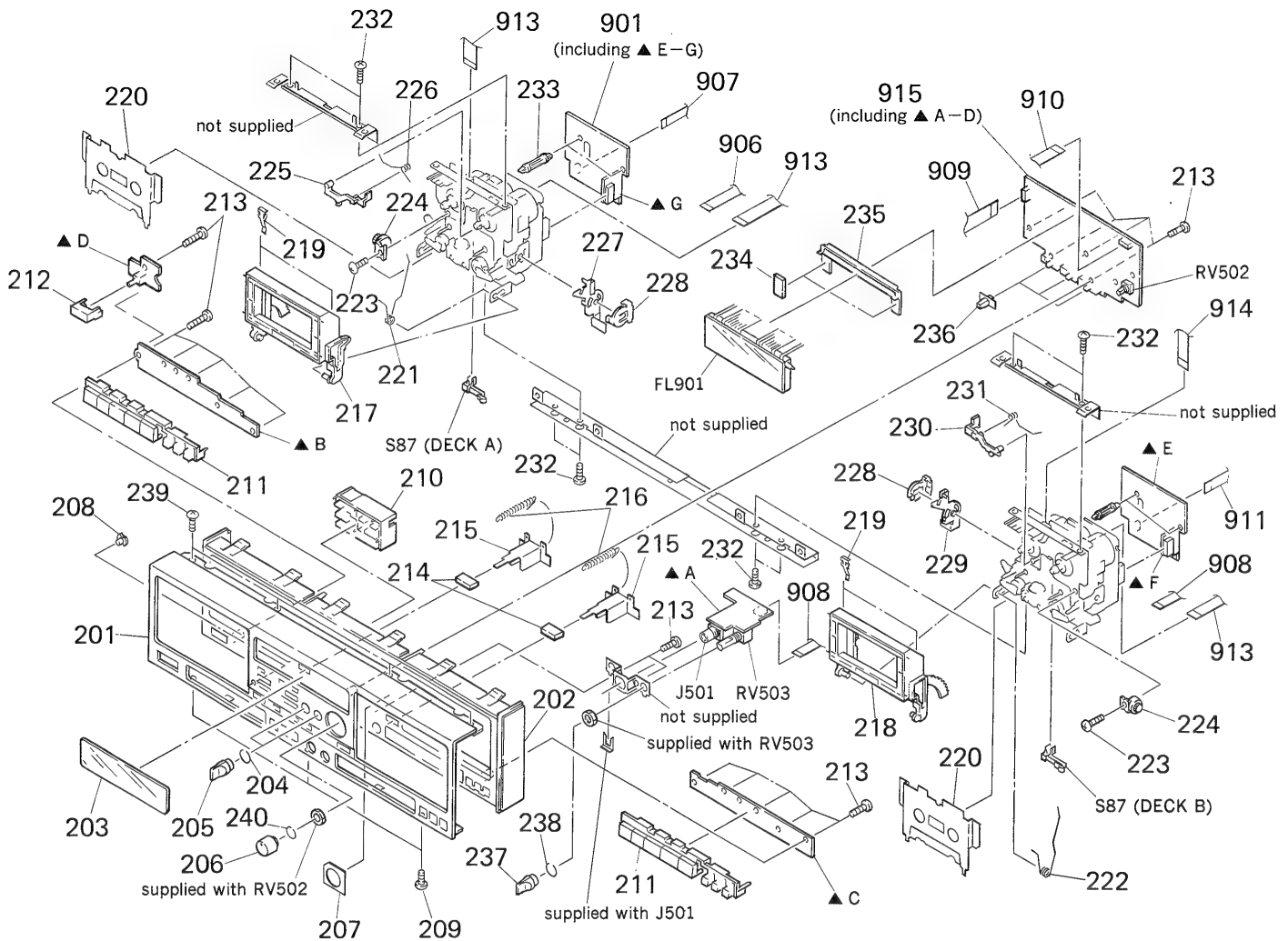
## 6-2. FRONT PANEL SECTION (WR720A)



| Ref.No | Part No.      | Description                         | Remarks |
|--------|---------------|-------------------------------------|---------|
| 51     | X-3346-310-1  | (US, Canadian)....PANEL ASSY, FRONT | 52-54   |
| 51     | X-3346-322-1  | (E)....PANEL ASSY, FRONT            | 52-54   |
| 52     | 3-340-188-11  | BUTTON (EJECT)                      |         |
| 53     | 3-359-922-01  | (US, Canadian)....WINDOW (METER)    |         |
| 53     | 3-359-922-11  | (E)....WINDOW (METER)               |         |
| 54     | 3-500-131-00  | SPRING, COMPRESSION                 |         |
| 55     | 4-928-635-01  | SCREW, +BV (2.6X8) TAPPING          |         |
| 56     | X-3340-195-1  | HOLDER (R) ASSY, CASSETTE           | 58      |
| 57     | X-3340-194-1  | HOLDER (L) ASSY, CASSETTE           | 58      |
| 58     | 3-308-823-11  | SPRING                              |         |
| 59     | 7-621-773-95  | SCREW +BVTT 2.6X6 (S)               |         |
| 60     | 3-354-963-01  | DAMPER                              |         |
| 61     | 3-354-956-01  | LEVER (EJECT SAFETY LEVER R)        |         |
| 62     | 3-354-955-01  | LEVER (EJECT SAFETY LEVER L)        |         |
| 63     | 3-354-962-01  | SPRING (EJECT SAFETY SPRING R)      |         |
| 64     | 3-354-961-01  | SPRING (EJECT SAFETY SPRING L)      |         |
| 65     | *3-354-954-01 | LEVER (LOCK LEVER R)                |         |
| 66     | *3-354-953-01 | LEVER (LOCK LEVER L)                |         |
| 67     | 3-354-957-01  | JOINT (LOCK LEVER)                  |         |
| 68     | 3-354-960-01  | SPRING (LOADING R), TORSION         |         |
| 69     | 3-354-959-01  | SPRING (LOADING L), TORSION         |         |

| Ref.No | Part No.      | Description                       | Remarks |
|--------|---------------|-----------------------------------|---------|
| 70     | *3-682-419-21 | HOLDER, P.C.B                     |         |
| 71     | 3-354-932-01  | BUTTON (POWER)                    |         |
| 72     | *4-933-135-01 | RING (DIA. 58A), ORNAMENTAL       |         |
| 73     | 7-685-134-19  | SCREW (+ PTPWH)(2.6X8)            |         |
| 74     | 3-359-926-01  | KNOB (RT-90)                      |         |
| 75     | 3-359-926-11  | KNOB (RT-90)                      |         |
| 76     | 9-911-844-XX  | CUSHION                           |         |
| 77     | 4-925-125-01  | HOLDER, FL TUBE                   |         |
| 901    | *A-2006-254-A | MOUNTED PCB, AUDIO SYSTEM CONTROL |         |
| 906    | *1-575-847-11 | WIRE, FLAT TYPE (5 CORE)          |         |
| 907    | *1-575-851-11 | WIRE, FLAT TYPE (7 CORE)          |         |
| 908    | *1-575-848-11 | WIRE, FLAT TYPE (5 CORE)          |         |
| 909    | *1-575-853-11 | WIRE, FLAT TYPE (15 CORE)         |         |
| 910    | 1-534-517-00  | WIRE, FLAT TYPE (11 CORE)         |         |
| 911    | *1-575-780-11 | WIRE, FLAT TYPE (7 CORE)          |         |
| 912    | *A-2006-255-A | MOUNTED PCB, PANEL                |         |
| 913    | *1-575-850-11 | WIRE, FLAT TYPE (9 CORE)          |         |
| 914    | *1-575-781-11 | WIRE, FLAT TYPE (9 CORE)          |         |
| FL901  | 1-519-593-11  | INDICATOR TUBE, FLUORESCENT       |         |
| J501   | 1-507-796-71  | JACK (PHONES)                     |         |
| S87    | 1-572-393-11  | SWITCH, LEAF (DIRECTION)          |         |

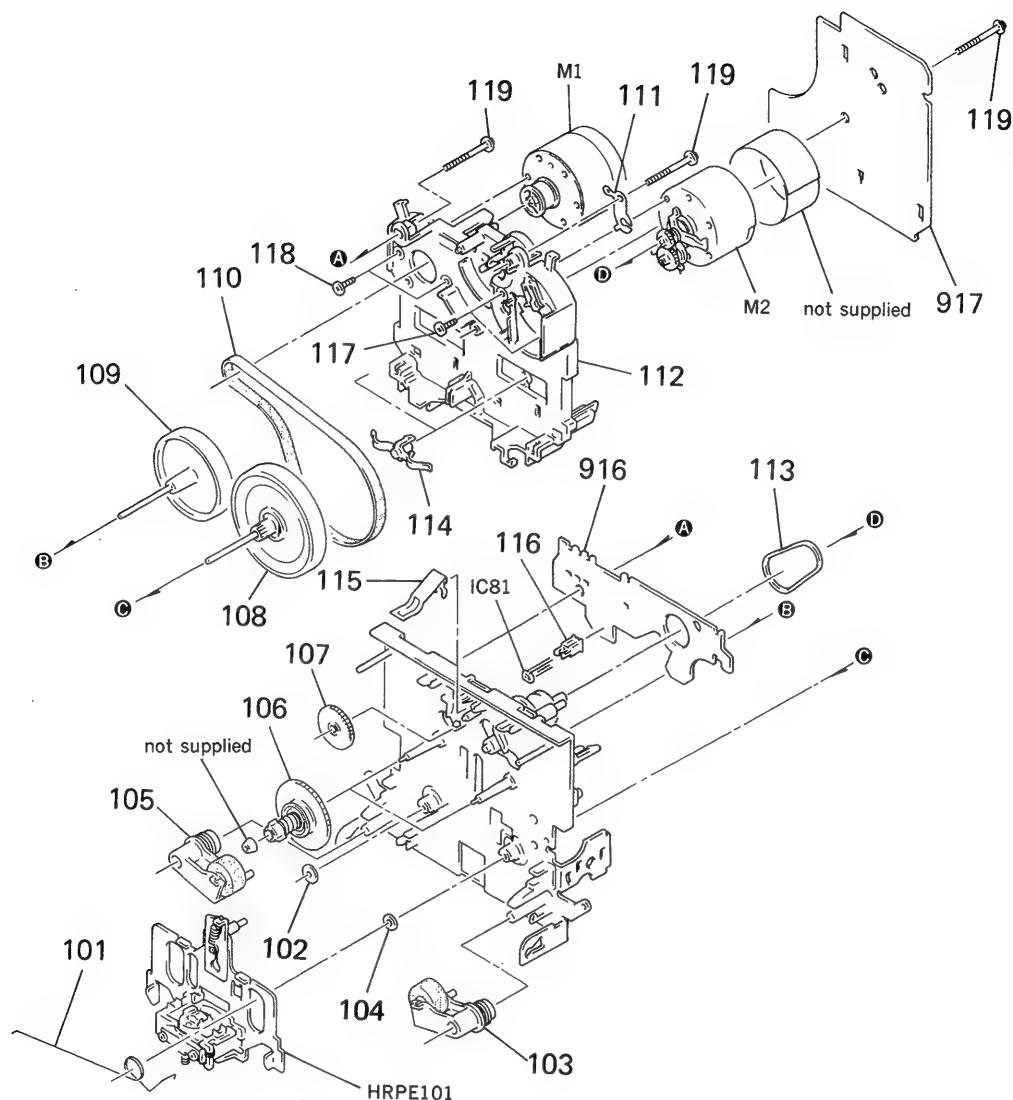
### 6-3. FRONT PANEL SECTION (WR720)



| Ref.No | Part No.      | Description                    | Remarks |
|--------|---------------|--------------------------------|---------|
| 201    | 3-354-939-51  | PANEL, FRONT                   |         |
| 202    | 3-354-916-12  | PANEL (BASE)                   |         |
| 203    | 3-354-933-12  | WINDOW (METER)                 |         |
| 204    | 3-354-981-01  | SPRING (SUS), RING             |         |
| 205    | 3-354-931-11  | KNOB (DIA. 10)                 |         |
| 206    | 3-359-932-01  | KNOB (REC LEVEL)               |         |
| 207    | 3-354-923-01  | PLATE (VOL), ORNAMENTAL        |         |
| 208    | 3-354-924-01  | PLATE, INDICATION              |         |
| 209    | 7-685-534-19  | SCREW +BTP 2.6X8 TYPE2 N-S     |         |
| 210    | 3-354-938-01  | BUTTON (B)                     |         |
| 211    | 3-354-937-01  | BUTTON (A)                     |         |
| 212    | 3-354-932-01  | BUTTON (POWER)                 |         |
| 213    | 4-928-635-01  | SCREW, +BV (2.6X8) TAPPING     |         |
| 214    | 3-359-907-01  | BUTTON (EJECT)                 |         |
| 215    | *3-359-935-01 | LEVER (EJECT)                  |         |
| 216    | 3-362-234-01  | SPRING, TENSION                |         |
| 217    | X-3340-195-1  | HOLDER (R) ASSY, CASSETTE      | 219     |
| 218    | X-3340-194-1  | HOLDER (L) ASSY, CASSETTE      | 219     |
| 219    | 3-308-823-11  | SPRING                         |         |
| 220    | X-3346-313-1  | RETAINER ASSY, CASSETTE        |         |
| 221    | 3-354-960-01  | SPRING (LOADING R), TORSION    |         |
| 222    | 3-354-959-01  | SPRING (LOADING L), TORSION    |         |
| 223    | 7-621-773-95  | SCREW +BVTT 2.6X6 (S)          |         |
| 224    | 3-354-963-01  | DAMPER                         |         |
| 225    | 3-354-956-01  | LEVER (EJECT SAFETY LEVER R)   |         |
| 226    | 3-354-962-01  | SPRING (EJECT SAFETY SPRING R) |         |
| 227    | *3-354-954-01 | LEVER (LOCK LEVER R)           |         |
| 228    | 3-354-957-01  | JOINT (LOCK LEVER)             |         |

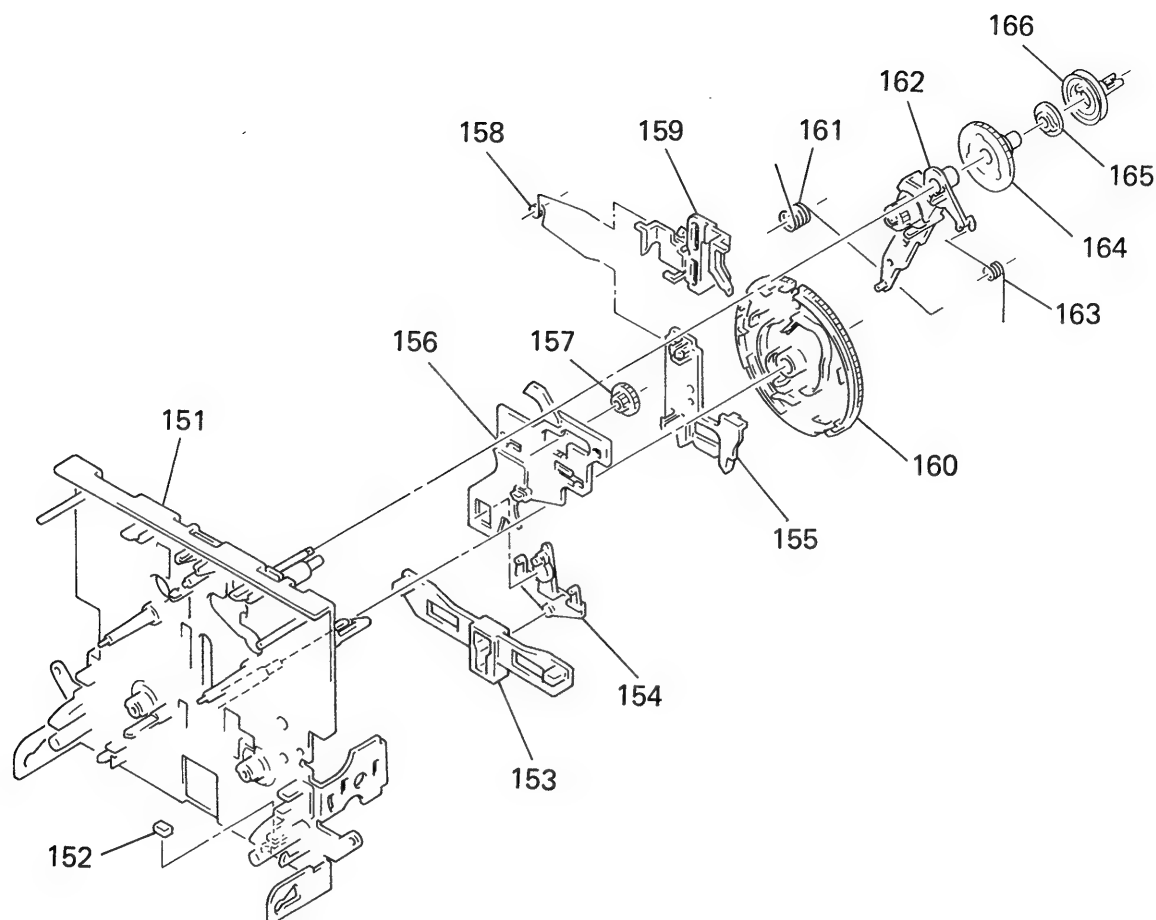
| Ref.No | Part No.      | Description                             | Remarks |
|--------|---------------|---|---------|
| 229    | *3-354-953-01 | LEVER (LOCK LEVER L)                    |         |
| 230    | 3-354-955-01  | LEVER (EJECT SAFETY LEVER L)            |         |
| 231    | 3-354-961-01  | SPRING (EJECT SAFETY SPRING L)          |         |
| 232    | 7-621-770-67  | SCREW +BVTT 2.6X6 (S)                   |         |
| 233    | *3-682-419-21 | HOLDER, P.C.B                           |         |
| 234    | 9-911-844-XX  | CUSHION                                 |         |
| 235    | 4-925-125-01  | HOLDER, FL TUBE                         |         |
| 236    | 4-922-518-01  | KNOB (TIMER)                            |         |
| 237    | 3-354-931-01  | KNOB (DIA. 10)                          |         |
| 238    | 3-356-935-01  | SPRING                                  |         |
| 239    | 7-682-547-04  | SCREW +BVTT 3X6                         |         |
| 240    | *3-362-235-01 | SPRING (REC LEVEL), RING                |         |
| 901    | *A-2006-258-A | MOUNTED PCB, AUDIO SYSTEM CONTROL       |         |
| 906    | *1-575-847-11 | WIRE, FLAT TYPE (5 CORE)                |         |
| 907    | *1-575-851-11 | WIRE, FLAT TYPE (7 CORE)                |         |
| 908    | *1-575-848-11 | WIRE, FLAT TYPE (7 CORE)                |         |
| 909    | *1-575-853-11 | WIRE, FLAT TYPE (15 CORE)               |         |
| 910    | 1-534-517-00  | WIRE, FLAT TYPE (11 CORE)               |         |
| 911    | *1-575-780-11 | WIRE, FLAT TYPE (7 CORE)                |         |
| 913    | *1-575-850-11 | WIRE, FLAT TYPE (9 CORE)                |         |
| 914    | *1-575-781-11 | WIRE, FLAT TYPE (9 CORE)                |         |
| 915    | *A-2006-259-A | MOUNTED, PCB, PANEL                     |         |
| FL901  | 1-519-593-11  | INDICATOR TUBE, FLUORESCENT             |         |
| J501   | 1-507-796-71  | JACK (PHONES)                           |         |
| RV502  | 1-241-133-11  | RES, VAR, CARBON 50K/50K (REC LEVEL)    |         |
| RV503  | 1-238-085-11  | RES, VAR, CARBON 20K/20K (PHONES LEVEL) |         |
| S87    | 1-572-393-11  | SWITCH, LEAF (DIRECTION)                |         |

**6-4. MECHANISM SECTION-1**  
**(DECK A, B: TCM-190RB12)**



| Ref.No | Part No.      | Description                    | Remarks | Ref.No  | Part No.      | Description                    | Remarks |
|--------|---------------|--------------------------------|---------|---------|---------------|--------------------------------|---------|
| 101    | 3-359-455-01  | SPRING, TORSION                |         | 114     | 3-575-321-00  | RETAINER, THRUST, CAPSTAN      |         |
| 102    | 3-356-714-01  | WASHER                         |         | 115     | 3-359-430-01  | SPRING(CASSETTE RETAINER),LEAF |         |
| 103    | X-3359-408-1  | LEVER (PINCH LEVER FWD) ASSY   |         | 116     | 3-343-419-01  | HOLDER (S SENSOR A)            |         |
| 104    | 3-356-713-01  | WASHER                         |         | 117     | 7-627-556-08  | SCREW +P 2.6X2.8               |         |
| 105    | X-3359-409-1  | LEVER (PINCH LEVER REV) ASSY   |         | 118     | 7-621-775-00  | SCREW +B 2.6X3                 |         |
| 106    | X-3359-404-1  | TABLE ASSY, REEL               |         | 119     | 3-359-414-01  | SCREW (+PTPWH 2X23)            |         |
| 107    | 3-359-424-01  | GEAR (REV GEAR)                |         | 916     | *1-634-841-11 | PC BOARD, SW-A                 |         |
| 108    | X-3359-406-1  | FLYWHEEL (FWD) COMPLETE ASSY   |         | 917     | *1-634-842-11 | PC BOARD, MD (C)               |         |
| 109    | X-3359-410-1  | FLYWHEEL (REV) ASSY            |         | IC81    | 8-719-939-23  | PHOTO REFLECTOR GP-2S09-C      |         |
| 110    | 3-359-417-01  | BELT (FLAT), CAPSTAN           |         | HRPE101 | A-2003-477-A  | BASE ASSY, HEAD (REC/PB/ERASE) |         |
| 111    | 3-359-450-01  | PLATE, GROUND                  |         | M1      | X-3359-417-1  | MOTOR ASSY (CAPASTAN)          |         |
| 112    | *3-359-436-01 | BASE (THRUST RETAINER),FITTING |         | M2      | A-2003-474-A  | MOTOR (REEL MOTOR) ASSY        |         |
| 113    | 3-359-466-01  | BELT (FR), SQUARE              |         |         |               |                                |         |

6-5. MECHASISM SECTION-2  
(DECK A, B: TCM-190RB12)



| Ref.No | Part No.      | Description              | Remarks | Ref.No | Part No.     | Description                      | Remarks |
|--------|---------------|--------------------------|---------|--------|--------------|----------------------------------|---------|
| 151    | X-3359-415-1  | CHASSIS ASSY, MECHANICAL |         | 159    | 3-359-429-01 | SLIDER (BRAKE PLATE)             |         |
| 152    | *3-359-469-01 | SPACER                   |         | 160    | 3-359-420-01 | GEAR (CAM GEAR)                  |         |
| 153    | *3-359-425-01 | SLIDER (REVERSE SLIDER)  |         | 161    | 3-359-456-01 | SPRING (TRIGGER SPRING), TORSION |         |
| 154    | 3-359-426-01  | LEVER (REVERSE LEVER)    |         | 162    | X-3359-405-1 | LEVER (FR ARM) ASSY              |         |
| 155    | *3-359-427-01 | SLIDER (REVERSE SLIDER)  |         | 163    | 3-359-453-01 | SPRING (FR ARM), TORSION         |         |
| 156    | *3-359-415-01 | SLIDER (TRIGGER SLIDER)  |         | 164    | 3-359-419-01 | GEAR (FR GEAR)                   |         |
| 157    | 3-359-448-01  | GEAR (TRIGGER)           |         | 165    | 3-359-421-01 | CLUTCH (REEL DISK)               |         |
| 158    | 3-359-454-01  | SPRING, TORSION          |         | 166    | 3-359-418-01 | PULLEY (FR PULLEY)               |         |

## SECTION 7 ELECTRICAL PARTS LIST

**NOTE:**

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- If there are two or more same circuits in a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.



**CAPACITORS:**MF:  $\mu$ F, PF:  $\mu$ MF.**RESISTORS**


- All resistors are in ohms.
- F: nonflammable

**COILS**




- MMH: mH, UH:  $\mu$ H

**SEMICONDUCTORS**In each case, U:  $\mu$ , for example:
 UA...:  $\mu$ A..., UPA...:  $\mu$ PA...,  
 UPC...:  $\mu$ PC, UPD...:  $\mu$ PD...

The components identified by mark  or dotted line with mark  are critical for safety. Replace only with part number specified.

Les composants identifiés par une marque  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

- WG....West Germany model.

| Ref.No | Part No.   | Description                                   |
|--------|--|---|
| 901    | *A-2006-254-A  | (WR720A)....MOUNTED PCB, AUDIO SYSTEM CONTROL |
| 901    | *A-2006-258-A  | (WR720)....MOUNTED PCB, AUDIO SYSTEM CONTROL  |
| 902    | *1-533-213-31  | HOLDER, FUSE                                  |
| 903    |  1-551-188-XX | (E)....CORD, POWER                            |
| 904    |  1-551-506-XX | (US, Canadian)....CORD, POWER                 |
| 905    |  1-555-795-00 | (AEP, WG)....CORD, POWER, EULO PLUG           |
| 906    | *1-575-847-11  | WIRE, FLAT TYPE (5 CORE)                      |
| 907    | *1-575-851-11  | WIRE, FLAT TYPE (7 CORE)                      |
| 908    | *1-575-848-11  | WIRE, FLAT TYPE (5 CORE)                      |
| 909    | *1-575-853-11  | WIRE, FLAT TYPE (15 CORE)                     |
| 910    | 1-534-517-00   | WIRE, FLAT TYPE (11 CORE)                     |
| 911    | *1-575-780-11  | WIRE, FLAT TYPE (7 CORE)                      |
| 912    | *A-2006-255-A  | (WR720A)....MOUNTED PCB, PANEL                |
| 913    | *1-575-850-11  | WIRE, FLAT TYPE (9 CORE)                      |
| 914    | *1-575-781-11  | WIRE, FLAT TYPE (9 CORE)                      |
| 915    | *A-2006-259-A  | (WR720)....MOUNTED, PCB, PANEL                |
| 916    | *1-634-841-11  | PC BOARD, SW-A                                |
| 917    | *1-634-842-11  | PC BOARD, MD (C)                              |

**CAPACITOR**



|      |              |                    |          |     |      |
|------|--------------|--------------------|----------|-----|------|
| C11  | 1-110-342-11 | MYLAR              | 390PF    | 5%  | 50V  |
| C12  | 1-136-157-00 | FILM               | 0.022MF  | 5%  | 50V  |
| C13  | 1-124-282-00 | ELECT              | 22MF     | 20% | 25V  |
| C21  | 1-110-342-11 | MYLAR              | 390PF    | 5%  | 50V  |
| C22  | 1-136-157-00 | FILM               | 0.022MF  | 5%  | 50V  |
| C23  | 1-124-282-00 | ELECT              | 22MF     | 20% | 25V  |
| C31  | 1-124-443-00 | ELECT              | 100MF    | 20% | 10V  |
| C32  | 1-124-443-00 | ELECT              | 100MF    | 20% | 10V  |
| C33  | 1-124-119-00 | ELECT              | 330MF    | 20% | 16V  |
| C51  | 1-136-230-00 | FILM               | 0.0022MF | 5%  | 100V |
| C52  | 1-136-230-00 | FILM               | 0.0022MF | 5%  | 100V |
| C53  | 1-130-856-00 | FILM               | 0.0068MF | 5%  | 100V |
| C54  | 1-136-601-11 | FILM               | 0.01MF   | 5%  | 630V |
| C55  | 1-161-494-00 | CERAMIC            | 0.022MF  | 5%  | 25V  |
| C56  | 1-126-157-11 | ELECT              | 10MF     | 20% | 16V  |
| C71  | 1-123-875-11 | ELECT              | 10MF     | 20% | 50V  |
| C72  | 1-123-875-11 | ELECT              | 10MF     | 20% | 50V  |
| C101 | 1-136-157-00 | FILM               | 0.022MF  | 5%  | 50V  |
| C102 | 1-162-294-31 | CERAMIC            | 0.001MF  | 10% | 50V  |
| C103 | 1-161-375-00 | (WR720)....CERAMIC | 0.0022MF | 20% | 16V  |
| C104 | 1-130-475-00 | MYLAR              | 0.0022MF | 5%  | 50V  |
| C105 | 1-130-475-00 | MYLAR              | 0.0022MF | 5%  | 50V  |
| C106 | 1-136-174-00 | FILM               | 0.56MF   | 5%  | 50V  |
| C107 | 1-136-171-00 | FILM               | 0.33MF   | 5%  | 50V  |
| C108 | 1-123-875-11 | ELECT              | 10MF     | 20% | 50V  |
| C109 | 1-124-446-11 | ELECT              | 47MF     | 20% | 10V  |
| C110 | 1-123-875-11 | ELECT              | 10MF     | 20% | 50V  |
| C111 | 1-124-791-11 | ELECT              | 1MF      | 20% | 50V  |
| C121 | 1-123-875-11 | ELECT              | 10MF     | 20% | 50V  |
| C122 | 1-123-875-11 | ELECT              | 10MF     | 20% | 50V  |
| C124 | 1-124-902-00 | ELECT              | 0.47MF   | 20% | 50V  |
| C131 | 1-123-382-00 | ELECT              | 3.3MF    | 20% | 50V  |
| C151 | 1-123-875-11 | ELECT              | 10MF     | 20% | 50V  |

|      |              |                    |          |       |      |
|------|--------------|--------------------|----------|-------|------|
| C152 | 1-123-875-11 | ELECT              | 10MF     | 20%   | 50V  |
| C154 | 1-124-902-00 | ELECT              | 0.47MF   | 20%   | 50V  |
| C181 | 1-126-096-11 | (WR720)....ELECT   | 10MF     | 20%   | 25V  |
| C201 | 1-136-157-00 | FILM               | 0.022MF  | 5%    | 50V  |
| C202 | 1-162-294-31 | CERAMIC            | 0.001MF  | 10%   | 50V  |
| C203 | 1-161-375-00 | (WR720)....CERAMIC | 0.0022MF | 20%   | 16V  |
| C204 | 1-130-475-00 | MYLAR              | 0.0022MF | 5%    | 50V  |
| C205 | 1-130-475-00 | MYLAR              | 0.0022MF | 5%    | 50V  |
| C206 | 1-136-174-00 | FILM               | 0.56MF   | 5%    | 50V  |
| C207 | 1-136-171-00 | FILM               | 0.33MF   | 5%    | 50V  |
| C208 | 1-123-875-11 | ELECT              | 10MF     | 20%   | 50V  |
| C209 | 1-124-446-11 | ELECT              | 47MF     | 20%   | 10V  |
| C210 | 1-123-875-11 | ELECT              | 10MF     | 20%   | 50V  |
| C211 | 1-124-791-11 | ELECT              | 1MF      | 20%   | 50V  |
| C221 | 1-123-875-11 | ELECT              | 10MF     | 20%   | 50V  |
| C222 | 1-123-875-11 | ELECT              | 10MF     | 20%   | 50V  |
| C224 | 1-124-902-00 | ELECT              | 0.47MF   | 20%   | 50V  |
| C231 | 1-123-382-00 | ELECT              | 3.3MF    | 20%   | 50V  |
| C251 | 1-123-875-11 | ELECT              | 10MF     | 20%   | 50V  |
| C252 | 1-123-875-11 | ELECT              | 10MF     | 20%   | 50V  |
| C254 | 1-124-902-00 | ELECT              | 0.47MF   | 20%   | 50V  |
| C281 | 1-126-096-11 | (WR720)....ELECT   | 10MF     | 20%   | 25V  |
| C391 | 1-136-273-91 | FILM               | 75PF     | 5%    | 630V |
| C392 | 1-162-288-31 | CERAMIC            | 330PF    | 10%   | 50V  |
| C393 | 1-130-472-00 | MYLAR              | 0.0012MF | 5%    | 50V  |
| C394 | 1-136-433-11 | FILM               | 100PF    | 5%    | 630V |
| C395 | 1-136-437-11 | FILM               | 220PF    | 5%    | 630V |
| C396 | 1-136-165-00 | FILM               | 0.1MF    | 5%    | 50V  |
| C397 | 1-136-157-00 | FILM               | 0.022MF  | 5%    | 50V  |
| C398 | 1-136-153-00 | FILM               | 0.01MF   | 5%    | 50V  |
| C491 | 1-136-273-91 | FILM               | 75PF     | 5%    | 630V |
| C492 | 1-162-288-31 | CERAMIC            | 330PF    | 10%   | 50V  |
| C493 | 1-130-472-00 | MYLAR              | 0.0012MF | 5%    | 50V  |
| C494 | 1-136-433-11 | FILM               | 100PF    | 5%    | 630V |
| C495 | 1-136-437-11 | FILM               | 220PF    | 5%    | 630V |
| C496 | 1-136-165-00 | FILM               | 0.1MF    | 5%    | 50V  |
| C497 | 1-136-157-00 | FILM               | 0.022MF  | 5%    | 50V  |
| C498 | 1-136-153-00 | FILM               | 0.01MF   | 5%    | 50V  |
| C506 | 1-124-791-11 | ELECT              | 1MF      | 20%   | 50V  |
| C542 | 1-124-925-11 | ELECT              | 2.2MF    | 20%   | 50V  |
| C591 | 1-124-473-11 | ELECT              | 1000MF   | 20%   | 10V  |
| C592 | 1-124-589-11 | (WR720)....ELECT   | 47MF     | 20%   | 16V  |
| C593 | 1-124-589-11 | (WR720)....ELECT   | 47MF     | 20%   | 16V  |
| C599 | 1-124-925-11 | ELECT              | 2.2MF    | 20%   | 50V  |
| C601 | 1-124-925-11 | ELECT              | 2.2MF    | 20%   | 50V  |
| C602 | 1-162-286-31 | CERAMIC            | 220PF    | 10%   | 50V  |
| C603 | 1-162-286-31 | CERAMIC            | 220PF    | 10%   | 50V  |
| C604 | 1-124-925-11 | ELECT              | 2.2MF    | 20%   | 50V  |
| C605 | 1-136-157-00 | FILM               | 0.022MF  | 5%    | 50V  |
| C608 | 1-124-925-11 | ELECT              | 2.2MF    | 20%   | 50V  |
| C691 | 1-107-046-00 | MICA               | 4.7PF    | 0.5PF | 500V |
| C692 | 1-124-446-11 | ELECT              | 47MF     | 20%   | 10V  |
| C693 | 1-126-101-11 | ELECT              | 100MF    | 20%   | 16V  |
| C694 | 1-124-902-00 | ELECT              | 0.47MF   | 20%   | 50V  |
| C701 | 1-124-443-00 | ELECT              | 100MF    | 20%   | 6.3V |


| Ref.No | Part No.      | Description                     |          |       |      |
|--------|---------------|---------------------------------|----------|-------|------|
| C702   | 1-124-122-11  | ELECT                           | 100MF    | 20%   | 35V  |
| C703   | 1-124-925-11  | ELECT                           | 2.2MF    | 20%   | 50V  |
| C704   | 1-124-911-11  | ELECT                           | 220MF    | 20%   | 50V  |
| C705   | 1-124-927-11  | ELECT                           | 4.7MF    | 20%   | 50V  |
| C707   | 1-124-925-11  | ELECT                           | 2.2MF    | 20%   | 50V  |
| C708   | 1-124-564-11  | ELECT                           | 4700MF   | 20%   | 25V  |
| C709   | 1-124-446-11  | ELECT                           | 47MF     | 20%   | 10V  |
| C710   | 1-124-473-11  | ELECT                           | 1000MF   | 20%   | 10V  |
| C711   | 1-124-473-11  | ELECT                           | 1000MF   | 20%   | 10V  |
| C712   | 1-126-946-11  | ELECT                           | 6800MF   | 20%   | 25V  |
| C713   | 1-161-494-00  | CERAMIC                         | 0.022MF  |       | 25V  |
| C801   | 1-124-443-00  | ELECT                           | 100MF    | 20%   | 6.3V |
| C802   | 1-164-159-11  | CERAMIC                         | 0.1MF    |       | 50V  |
| C803   | 1-162-306-11  | CERAMIC                         | 0.01MF   | 20%   | 16V  |
| C804   | 1-124-443-00  | ELECT                           | 100MF    | 20%   | 6.3V |
| C805   | 1-124-925-11  | ELECT                           | 2.2MF    | 20%   | 50V  |
| C806   | 1-136-165-00  | FILM                            | 0.1MF    | 5%    | 50V  |
| C807   | 1-136-165-00  | FILM                            | 0.1MF    | 5%    | 50V  |
| C851   | 1-124-902-00  | ELECT                           | 0.47MF   | 20%   | 50V  |
| C861   | 1-162-294-31  | CERAMIC                         | 0.001MF  | 10%   | 50V  |
| C901   | 1-164-159-11  | CERAMIC                         | 0.1MF    |       | 50V  |
| C902   | 1-124-443-00  | (WR720A)....ELECT               | 100MF    | 20%   | 6.3V |
| C902   | 1-126-154-11  | (WR720)....ELECT                | 47MF     | 20%   | 6.3V |
| C904   | 1-162-306-11  | (WR720)....CERAMIC              | 0.01MF   | 20%   | 16V  |
| C904   | 1-164-159-11  | (WR720A)....CERAMIC             | 0.1MF    |       | 50V  |
| C905   | 1-124-927-11  | (WR720)....ELECT                | 4.7MF    | 20%   | 50V  |
| C0391  | 1-136-273-91  | FILM                            | 75PF     | 5%    | 630V |
| C0392  | 1-162-288-31  | CERAMIC                         | 330PF    | 10%   | 50V  |
| C0393  | 1-130-472-00  | MYLAR                           | 0.0012MF | 5%    | 50V  |
| C0394  | 1-136-433-11  | FILM                            | 100PF    | 5%    | 630V |
| C0395  | 1-136-437-11  | FILM                            | 220PF    | 5%    | 630V |
| C0396  | 1-136-165-00  | FILM                            | 0.1MF    | 5%    | 50V  |
| C0397  | 1-136-157-00  | FILM                            | 0.022MF  | 5%    | 50V  |
| C0398  | 1-136-153-00  | FILM                            | 0.01MF   | 5%    | 50V  |
| C0491  | 1-136-273-91  | FILM                            | 75PF     | 5%    | 630V |
| C0492  | 1-162-288-31  | CERAMIC                         | 330PF    | 10%   | 50V  |
| C0493  | 1-130-472-00  | MYLAR                           | 0.0012MF | 5%    | 50V  |
| C0494  | 1-136-433-11  | FILM                            | 100PF    | 5%    | 630V |
| C0495  | 1-136-437-11  | FILM                            | 220PF    | 5%    | 630V |
| C0496  | 1-136-165-00  | FILM                            | 0.1MF    | 5%    | 50V  |
| C0497  | 1-136-157-00  | FILM                            | 0.022MF  | 5%    | 50V  |
| C0498  | 1-136-153-00  | FILM                            | 0.01MF   | 5%    | 50V  |
| C0691  | 1-107-046-00  | MICA                            | 4.7PF    | 0.5PF | 500V |
| C0692  | 1-124-446-11  | ELECT                           | 47MF     | 20%   | 10V  |
| C0693  | 1-126-101-11  | ELECT                           | 100MF    | 20%   | 16V  |
| C0694  | 1-124-902-00  | ELECT                           | 0.47MF   | 20%   | 50V  |
| CN501  | *1-568-824-11 | SOCKET, CONNECTOR 5P            |          |       |      |
| CN502  | *1-568-824-11 | SOCKET, CONNECTOR 5P            |          |       |      |
| CN503  | *1-568-826-11 | SOCKET, CONNECTOR 7P            |          |       |      |
| CN504  | *1-568-826-11 | SOCKET, CONNECTOR 7P            |          |       |      |
| CN505  | *1-564-337-00 | (WR720A)....PIN, CONNECTOR 3P   |          |       |      |
| CN505  | *1-564-824-11 | (WR720)....SOCKET, CONNECTOR 5P |          |       |      |
| CN506  | *1-568-848-11 | (WR720)....SOCKET, CONNECTOR 5P |          |       |      |
| CN601  | *1-564-509-11 | PLUG, CONNECTOR 6P              |          |       |      |
| CN691  | *1-568-826-11 | SOCKET, CONNECTOR 7P            |          |       |      |
| CN701  | *1-564-338-00 | (WR720)....PIN, CONNECTOR 4P    |          |       |      |
| CN701  | *1-564-339-00 | (WR720A)....PIN, CONNECTOR 5P   |          |       |      |
| CN703  | *1-564-510-11 | PLUG, CONNECTOR 7P              |          |       |      |
| CN801  | *1-568-830-11 | SOCKET, CONNECTOR 11P           |          |       |      |
| CN802  | *1-568-828-11 | SOCKET, CONNECTOR 9P            |          |       |      |
| CN803  | *1-568-828-11 | SOCKET, CONNECTOR 9P            |          |       |      |
| CN804  | *1-568-828-11 | SOCKET, CONNECTOR 9P            |          |       |      |
| CN805  | *1-568-828-11 | SOCKET, CONNECTOR 9P            |          |       |      |
| CN806  | *1-568-834-11 | SOCKET, CONNECTOR 15P           |          |       |      |

| Ref.No  | Part No.      | Description                                    |
|---------|---------------|--|
| CN901   | *1-568-834-11 | (WR720)....SOCKET, CONNECTOR 15P               |
| CN901   | *1-568-858-11 | (WR720A)....SOCKET, CONNECTOR 15P              |
| CN902   | *1-568-830-11 | (WR720)....SOCKET, CONNECTOR 11P               |
| CN902   | *1-568-854-11 | (WR720A)....SOCKET, CONNECTOR 11P              |
| CN904   | *1-564-498-11 | (WR720)....PIN, CONNECTOR 5P                   |
| CN905   | *1-564-498-11 | (WR720)....PIN, CONNECTOR 5P                   |
| CN906   | *1-564-498-11 | (WR720)....PIN, CONNECTOR 5P                   |
| CN0691  | *1-568-826-11 | SOCKET, CONNECTOR 7P                           |
| CNP31   | *1-568-824-11 | SOCKET, CONNECTOR 5P                           |
| CNP32   | *1-564-709-11 | PIN, CONNECTOR (SMALL TYPE) 7P                 |
| CNP34   | *1-565-344-11 | PIN, CONNECTOR (PC BOARD) 8P                   |
| CNP35   | *1-564-706-11 | PIN, CONNECTOR (SMALL TYPE) 4P                 |
| CNP71   | *1-564-705-11 | PIN, CONNECTOR (SMALL TYPE) 3P                 |
| CNP72   | *1-564-706-11 | PIN, CONNECTOR (SMALL TYPE) 4P                 |
| CNP73   | *1-568-828-11 | SOCKET, CONNECTOR 9P                           |
| CNP75   | *1-564-704-11 | PIN, CONNECTOR (SMALL TYPE) 2P                 |
| CNP81   | *1-568-852-11 | SOCKET, CONNECTOR 9P                           |
| CNP691  | *1-565-347-11 | SOCKET, CONNECTOR (PC BOARD)8P                 |
| CNP691  | *1-565-347-11 | SOCKET, CONNECTOR (PC BOARD)8P                 |
| CP901   | 1-233-125-11  | (WR720)....COMPOSITION CIRCUIT BLOCK (10KX4)   |
| CP901   | 1-233-219-11  | (WR720A)....COMPOSITION CIRCUIT BLOCK          |
| CP902   | 1-233-125-11  | (WR720)....COMPOSITION CIRCUIT BLOCK (10KX4)   |
| CP902   | 1-233-136-11  | (WR720A)....COMPOSITION CIRCUIT BLOCK (10KX8)  |
| CP903   | 1-233-219-11  | (WR720)....COMPOSITION CIRCUIT BLOCK           |
| D31     | 8-719-107-94  | DIODE 1SS202-1                                 |
| D131    | 8-719-107-94  | DIODE 1SS202-1                                 |
| D231    | 8-719-107-94  | DIODE 1SS202-1                                 |
| D501    | 8-719-107-94  | (WR720)....DIODE 1SS202-1                      |
| D502    | 8-719-107-94  | DIODE 1SS202-1                                 |
| D503    | 8-719-933-54  | DIODE HZS9A2L                                  |
| D571    | 8-719-107-94  | DIODE 1SS202-1                                 |
| D572    | 8-719-001-36  | DIODE UZL-11L2                                 |
| D601    | 8-719-107-94  | DIODE 1SS202-1                                 |
| D602    | 8-719-107-94  | DIODE 1SS202-1                                 |
| D701    | 8-719-000-78  | DIODE UZL-7L2                                  |
| D702    | 8-719-107-94  | DIODE 1SS202-1                                 |
| D703    | 8-719-200-77  | DIODE 10E2N                                    |
| D704    | 8-719-200-77  | DIODE 10E2N                                    |
| D705    | 8-719-200-77  | DIODE 10E2N                                    |
| D706    | 8-719-107-94  | DIODE 1SS202-1                                 |
| D707    | 8-719-200-77  | DIODE 10E2N                                    |
| D708    | 8-719-200-77  | DIODE 10E2N                                    |
| D709    | 8-719-933-33  | DIODE HZS6A1L                                  |
| D710    | 8-719-200-77  | DIODE 10E2N                                    |
| D711    | 8-719-200-77  | DIODE 10E2N                                    |
| D712    | 8-719-933-33  | DIODE HZS6A1L                                  |
| D713    | 8-719-000-93  | DIODE UZL-7H1                                  |
| D801    | 8-719-107-94  | DIODE 1SS202-1                                 |
| D811    | 8-719-107-94  | DIODE 1SS202-1                                 |
| D812    | 8-719-107-94  | DIODE 1SS202-1                                 |
| D902    | 8-719-301-39  | DIODE SEL2210S                                 |
| F701    | △1-532-259-00 | (AEP, WG, E)....FUSE, TIME-LAG (T1.6A/250V)    |
| F701    | △1-532-742-11 | (US, Canadian)....FUSE, GLASS TUBE (1.6A/125V) |
| F702    | △1-532-259-00 | (AEP, WG, E)....FUSE, TIME-LAG (T1.6A/250V)    |
| F702    | △1-532-742-11 | (US, Canadian)....FUSE, GLASS TUBE (1.6A/125V) |
| FL901   | 1-519-593-11  | INDICATOR TUBE, FLUORESCENT                    |
| HRPE101 | A-2003-477-A  | BASE ASSY, HEAD (REC/PB/ERASE)                 |
| IC31    | 8-759-111-44  | IC UPC4570C-1                                  |
| IC81    | 8-719-939-23  | PHOTO REFLECTOR GP-2S09-C                      |
| IC501   | 8-752-036-34  | IC CXA1330S                                    |
| IC503   | 8-759-945-58  | IC RC4558P                                     |
| IC504   | 8-759-945-58  | IC RC4558P                                     |

## Note:

The components identified by mark  or dotted line with mark  are critical for safety. Replace only with part number specified.

## Note:

Les composants identifiés par une marque  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

| Ref.No | Part No.     | Description                    |
|--------|--------------|--------------------------------|
| IC506  | 8-759-040-53 | IC MC14053BCP                  |
| IC509  | 8-752-038-02 | IC CXA1198AP                   |
| IC510  | 8-759-208-06 | IC MC14051BCP                  |
| IC551  | 8-752-038-02 | IC CXA1198AP                   |
| IC601  | 8-759-634-50 | (WR720)....IC M5218AL          |
| IC601  | 8-759-634-51 | (WR720A)....IC M5218AP         |
| IC691  | 8-759-106-56 | IC UPC1297CA                   |
| IC701  | 8-759-945-58 | IC RC4558P                     |
| IC802  | 8-759-634-83 | IC M50925-446SP                |
| IC803  | 8-759-634-84 | IC M50255P                     |
| IC804  | 8-759-240-50 | IC MC14050BCP                  |
| IC805  | 8-759-207-05 | IC TA7272P                     |
| IC806  | 8-759-208-08 | IC MC14052BCP                  |
| IC807  | 8-759-208-08 | IC MC14052BCP                  |
| IC901  | 8-759-634-68 | IC M50941-358SP                |
| IC902  | 8-741-100-48 | IC SBX1610-59                  |
| IC0691 | 8-759-106-56 | IC UPC1297CA                   |
| J301   | 1-565-258-11 | JACK, PIN 4P (LINE IN/OUT)     |
| J501   | 1-507-796-71 | JACK (PHONES)                  |
| L391   | 1-410-780-11 | INDUCTOR 27MMH                 |
| L491   | 1-410-780-11 | INDUCTOR 27MMH                 |
| L0391  | 1-410-780-11 | INDUCTOR 27MMH                 |
| L0491  | 1-410-780-11 | INDUCTOR 27MMH                 |
| LPF101 | 1-235-980-11 | (WR720)....FILTER, LOW PASS    |
| LPF101 | 1-236-087-11 | (WR720A)....FILTER, LOW PASS   |
| LPF201 | 1-235-980-11 | (WR720)....FILTER, LOW PASS    |
| LPF201 | 1-236-087-11 | (WR720A)....FILTER, LOW PASS   |
| M1     | X-3359-417-1 | MOTOR ASSY (CAPASTAN)          |
| M2     | A-2003-474-A | MOTOR (REEL MOTOR) ASSY        |
| Q51    | 8-729-194-57 | TRANSISTOR 2SC945-P            |
| Q52    | 8-729-194-57 | TRANSISTOR 2SC945-P            |
| Q53    | 8-729-801-84 | TRANSISTOR 2SB1013-4           |
| Q71    | 8-729-820-16 | TRANSISTOR 2SA1317-S           |
| Q101   | 8-729-900-74 | TRANSISTOR DTC143TS            |
| Q102   | 8-729-900-74 | (WR720)....TRANSISTOR DTC143TS |
| Q121   | 8-729-821-31 | TRANSISTOR 2SD1012-FG          |
| Q171   | 8-729-821-31 | TRANSISTOR 2SD1012-FG          |
| Q201   | 8-729-900-74 | TRANSISTOR DTC143TS            |
| Q202   | 8-729-900-74 | (WR720)....TRANSISTOR DTC143TS |
| Q221   | 8-729-821-31 | TRANSISTOR 2SD1012-FG          |
| Q271   | 8-729-821-31 | TRANSISTOR 2SD1012-FG          |
| Q501   | 8-729-900-65 | TRANSISTOR DTA144ES            |
| Q502   | 8-729-900-65 | TRANSISTOR DTA144ES            |
| Q503   | 8-729-900-65 | (WR720)....TRANSISTOR DTA144ES |
| Q504   | 8-729-900-65 | TRANSISTOR DTA144ES            |
| Q505   | 8-729-900-89 | TRANSISTOR DTC144ES            |
| Q521   | 8-729-900-61 | TRANSISTOR DTA114ES            |
| Q551   | 8-729-900-61 | TRANSISTOR DTA114ES            |
| Q552   | 8-729-821-31 | TRANSISTOR 2SD1012-FG          |
| Q553   | 8-729-821-31 | TRANSISTOR 2SD1012-FG          |
| Q571   | 8-729-900-65 | TRANSISTOR DTA144ES            |
| Q572   | 8-729-821-04 | TRANSISTOR 2SA1317-STU         |
| Q601   | 8-729-900-89 | TRANSISTOR DTC144ES            |
| Q701   | 8-729-920-98 | TRANSISTOR 2SD1761-EF          |
| Q702   | 8-729-620-05 | TRANSISTOR 2SC2603-EF          |
| Q703   | 8-729-821-04 | TRANSISTOR 2SA1317-STU         |
| Q704   | 8-729-920-97 | TRANSISTOR 2SB1187-EF          |
| Q705   | 8-729-920-97 | TRANSISTOR 2SB1187-EF          |
| Q706   | 8-729-900-85 | TRANSISTOR DTC144WS            |
| Q707   | 8-729-920-98 | TRANSISTOR 2SD1761-EF          |
| Q708   | 8-729-900-89 | TRANSISTOR DTC144ES            |
| Q801   | 8-729-801-84 | TRANSISTOR 2SB1013-4           |
| Q802   | 8-729-801-84 | TRANSISTOR 2SB1013-4           |
| Q803   | 8-729-900-61 | TRANSISTOR DTA114ES            |

| Ref.No | Part No.     | Description                      |
|--------|--------------|----------------------------------|
| Q804   | 8-729-900-80 | TRANSISTOR 2SC3402-TP            |
| Q805   | 8-729-900-61 | TRANSISTOR DTA114ES              |
| Q806   | 8-729-900-61 | TRANSISTOR DTA114ES              |
| Q807   | 8-729-821-04 | TRANSISTOR 2SA1317-STU           |
| Q851   | 8-729-900-61 | TRANSISTOR DTA114ES              |
| Q852   | 8-729-900-89 | TRANSISTOR DTC144ES              |
| Q853   | 8-729-900-61 | TRANSISTOR DTA114ES              |
| Q854   | 8-729-900-89 | TRANSISTOR DTC144ES              |
| Q891   | 8-729-900-61 | TRANSISTOR DTA114ES              |
| Q901   | 8-729-900-65 | TRANSISTOR DTA144ES              |
| Q902   | 8-729-620-05 | TRANSISTOR 2SC2603-EF            |
| Q903   | 8-729-620-05 | TRANSISTOR 2SC2603-EF            |
| Q904   | 8-729-900-74 | TRANSISTOR DTC143TS              |
| Q905   | 8-729-620-05 | (WR720)....TRANSISTOR 2SC2603-EF |
| Q906   | 8-729-620-05 | (WR720)....TRANSISTOR 2SC2603-EF |
| Q907   | 8-729-620-05 | (WR720)....TRANSISTOR 2SC2603-EF |
| Q908   | 8-729-620-05 | (WR720)....TRANSISTOR 2SC2603-EF |

## RESISTOR

|      |              |                        |      |    |      |
|------|--------------|------------------------|------|----|------|
| R11  | 1-247-881-00 | CARBON                 | 120K | 5% | 1/4W |
| R12  | 1-249-405-11 | CARBON                 | 100  | 5% | 1/4W |
| R13  | 1-247-882-11 | CARBON                 | 130K | 5% | 1/4W |
| R14  | 1-249-426-11 | CARBON                 | 5.6K | 5% | 1/4W |
| R21  | 1-247-881-00 | CARBON                 | 120K | 5% | 1/4W |
| R22  | 1-249-405-11 | CARBON                 | 100  | 5% | 1/4W |
| R23  | 1-247-882-11 | CARBON                 | 130K | 5% | 1/4W |
| R24  | 1-249-426-11 | CARBON                 | 5.6K | 5% | 1/4W |
| R31  | 1-249-409-11 | CARBON                 | 220  | 5% | 1/4W |
| R32  | 1-249-409-11 | CARBON                 | 220  | 5% | 1/4W |
| R51  | 1-249-441-11 | CARBON                 | 100K | 5% | 1/4W |
| R52  | 1-249-441-11 | CARBON                 | 100K | 5% | 1/4W |
| R53  | 1-249-429-11 | CARBON                 | 10K  | 5% | 1/4W |
| R54  | 1-212-851-00 | FUSIBLE                | 5.6  | 5% | 1/4W |
| R55  | 1-249-429-11 | CARBON                 | 10K  | 5% | 1/4W |
| R71  | 1-247-864-11 | CARBON                 | 24K  | 5% | 1/4W |
| R72  | 1-249-433-11 | CARBON                 | 22K  | 5% | 1/4W |
| R73  | 1-249-437-11 | CARBON                 | 47K  | 5% | 1/4W |
| R74  | 1-249-437-11 | CARBON                 | 47K  | 5% | 1/4W |
| R81  | 1-249-414-11 | CARBON                 | 560  | 5% | 1/4W |
| R82  | 1-247-818-11 | CARBON                 | 300  | 5% | 1/4W |
| R83  | 1-247-834-11 | CARBON                 | 1.3K | 5% | 1/4W |
| R84  | 1-249-417-11 | CARBON                 | 1K   | 5% | 1/4W |
| R85  | 1-249-408-11 | CARBON                 | 180  | 5% | 1/4W |
| R101 | 1-249-423-11 | CARBON                 | 3.3K | 5% | 1/4W |
| R102 | 1-247-887-00 | CARBON                 | 220K | 5% | 1/4W |
| R103 | 1-249-441-11 | (WR720)....<br>CARBON  | 100K | 5% | 1/4W |
| R104 | 1-249-423-11 | CARBON                 | 3.3K | 5% | 1/4W |
| R105 | 1-249-428-11 | CARBON                 | 8.2K | 5% | 1/4W |
| R106 | 1-247-864-11 | CARBON                 | 24K  | 5% | 1/4W |
| R107 | 1-249-414-11 | CARBON                 | 560  | 5% | 1/4W |
| R119 | 1-249-421-11 | CARBON                 | 2.2K | 5% | 1/4W |
| R121 | 1-249-425-11 | CARBON                 | 4.7K | 5% | 1/4W |
| R124 | 1-249-426-11 | CARBON                 | 5.6K | 5% | 1/4W |
| R125 | 1-249-421-11 | CARBON                 | 2.2K | 5% | 1/4W |
| R126 | 1-249-429-11 | CARBON                 | 10K  | 5% | 1/4W |
| R131 | 1-249-408-11 | CARBON                 | 180  | 5% | 1/4W |
| R132 | 1-249-433-11 | (WR720A)....<br>CARBON | 22K  | 5% | 1/4W |
| R132 | 1-249-434-11 | (WR720)....<br>CARBON  | 27K  | 5% | 1/4W |
| R133 | 1-249-421-11 | CARBON                 | 2.2K | 5% | 1/4W |
| R134 | 1-249-435-11 | CARBON                 | 33K  | 5% | 1/4W |
| R151 | 1-249-425-11 | CARBON                 | 4.7K | 5% | 1/4W |
| R153 | 1-249-421-11 | CARBON                 | 2.2K | 5% | 1/4W |
| R155 | 1-249-426-11 | CARBON                 | 5.6K | 5% | 1/4W |

F



| Ref.No | Part No.     | Description            |      |    |      |  |  |  |  |
|--------|--------------|------------------------|------|----|------|--|--|--|--|
| R156   | 1-249-429-11 | CARBON                 | 10K  | 5% | 1/4W |  |  |  |  |
| R171   | 1-249-433-11 | CARBON                 | 22K  | 5% | 1/4W |  |  |  |  |
| R172   | 1-249-417-11 | CARBON                 | 1K   | 5% | 1/4W |  |  |  |  |
| R173   | 1-247-858-11 | CARBON                 | 13K  | 5% | 1/4W |  |  |  |  |
| R174   | 1-249-421-11 | CARBON                 | 2.2K | 5% | 1/4W |  |  |  |  |
| R181   | 1-249-429-11 | (WR720A)....<br>CARBON | 10K  | 5% | 1/4W |  |  |  |  |
| R181   | 1-249-433-11 | (WR720)....<br>CARBON  | 22K  | 5% | 1/4W |  |  |  |  |
| R182   | 1-249-421-11 | (WR720)....<br>CARBON  | 2.2K | 5% | 1/4W |  |  |  |  |
| R183   | 1-249-433-11 | (WR720)....<br>CARBON  | 22K  | 5% | 1/4W |  |  |  |  |
| R184   | 1-249-405-11 | (WR720A)....<br>CARBON | 100  | 5% | 1/4W |  |  |  |  |
| R184   | 1-249-409-11 | (WR720)....<br>CARBON  | 220  | 5% | 1/4W |  |  |  |  |
| R191   | 1-249-420-11 | CARBON                 | 1.8K | 5% | 1/4W |  |  |  |  |
| R201   | 1-249-423-11 | CARBON                 | 3.3K | 5% | 1/4W |  |  |  |  |
| R202   | 1-247-887-00 | CARBON                 | 220K | 5% | 1/4W |  |  |  |  |
| R203   | 1-249-441-11 | (WR720)....<br>CARBON  | 100K | 5% | 1/4W |  |  |  |  |
| R204   | 1-249-423-11 | CARBON                 | 3.3K | 5% | 1/4W |  |  |  |  |
| R205   | 1-249-428-11 | CARBON                 | 8.2K | 5% | 1/4W |  |  |  |  |
| R206   | 1-247-864-11 | CARBON                 | 24K  | 5% | 1/4W |  |  |  |  |
| R207   | 1-249-414-11 | CARBON                 | 560  | 5% | 1/4W |  |  |  |  |
| R219   | 1-249-421-11 | CARBON                 | 2.2K | 5% | 1/4W |  |  |  |  |
| R221   | 1-249-425-11 | CARBON                 | 4.7K | 5% | 1/4W |  |  |  |  |
| R224   | 1-249-426-11 | CARBON                 | 5.6K | 5% | 1/4W |  |  |  |  |
| R225   | 1-249-421-11 | CARBON                 | 2.2K | 5% | 1/4W |  |  |  |  |
| R226   | 1-249-429-11 | CARBON                 | 10K  | 5% | 1/4W |  |  |  |  |
| R231   | 1-249-408-11 | CARBON                 | 180  | 5% | 1/4W |  |  |  |  |
| R232   | 1-249-433-11 | (WR720A)....<br>CARBON | 22K  | 5% | 1/4W |  |  |  |  |
| R232   | 1-249-434-11 | (WR720)....<br>CARBON  | 27K  | 5% | 1/4W |  |  |  |  |
| R233   | 1-249-421-11 | CARBON                 | 2.2K | 5% | 1/4W |  |  |  |  |
| R234   | 1-249-435-11 | CARBON                 | 33K  | 5% | 1/4W |  |  |  |  |
| R251   | 1-249-425-11 | CARBON                 | 4.7K | 5% | 1/4W |  |  |  |  |
| R253   | 1-249-421-11 | CARBON                 | 2.2K | 5% | 1/4W |  |  |  |  |
| R255   | 1-249-426-11 | CARBON                 | 5.6K | 5% | 1/4W |  |  |  |  |
| R256   | 1-249-429-11 | CARBON                 | 10K  | 5% | 1/4W |  |  |  |  |
| R271   | 1-249-433-11 | CARBON                 | 22K  | 5% | 1/4W |  |  |  |  |
| R272   | 1-249-417-11 | CARBON                 | 1K   | 5% | 1/4W |  |  |  |  |
| R273   | 1-247-858-11 | CARBON                 | 13K  | 5% | 1/4W |  |  |  |  |
| R274   | 1-249-421-11 | CARBON                 | 2.2K | 5% | 1/4W |  |  |  |  |
| R281   | 1-249-429-11 | (WR720A)....<br>CARBON | 10K  | 5% | 1/4W |  |  |  |  |
| R281   | 1-249-433-11 | (WR720)....<br>CARBON  | 22K  | 5% | 1/4W |  |  |  |  |
| R282   | 1-249-421-11 | (WR720)....<br>CARBON  | 2.2K | 5% | 1/4W |  |  |  |  |
| R283   | 1-249-433-11 | (WR720)....<br>CARBON  | 22K  | 5% | 1/4W |  |  |  |  |
| R284   | 1-249-405-11 | (WR720A)....<br>CARBON | 100  | 5% | 1/4W |  |  |  |  |
| R284   | 1-249-409-11 | (WR720)....<br>CARBON  | 220  | 5% | 1/4W |  |  |  |  |
| R291   | 1-249-420-11 | CARBON                 | 1.8K | 5% | 1/4W |  |  |  |  |
| R391   | 1-249-430-11 | CARBON                 | 12K  | 5% | 1/4W |  |  |  |  |
| R392   | 1-247-883-00 | CARBON                 | 150K | 5% | 1/4W |  |  |  |  |
| R393   | 1-249-393-11 | CARBON                 | 10   | 5% | 1/4W |  |  |  |  |
| R394   | 1-249-431-11 | CARBON                 | 15K  | 5% | 1/4W |  |  |  |  |
| R395   | 1-247-864-11 | CARBON                 | 24K  | 5% | 1/4W |  |  |  |  |
| R491   | 1-249-430-11 | CARBON                 | 12K  | 5% | 1/4W |  |  |  |  |
| R492   | 1-247-883-00 | CARBON                 | 150K | 5% | 1/4W |  |  |  |  |
| R493   | 1-249-393-11 | CARBON                 | 10   | 5% | 1/4W |  |  |  |  |
| R494   | 1-249-431-11 | CARBON                 | 15K  | 5% | 1/4W |  |  |  |  |
| R495   | 1-247-864-11 | CARBON                 | 24K  | 5% | 1/4W |  |  |  |  |
| R501   | 1-249-429-11 | CARBON                 | 10K  | 5% | 1/4W |  |  |  |  |
| R502   | 1-249-434-11 | CARBON                 | 27K  | 5% | 1/4W |  |  |  |  |
| R503   | 1-249-417-11 | CARBON                 | 1K   | 5% | 1/4W |  |  |  |  |
| R504   | 1-249-429-11 | CARBON                 | 10K  | 5% | 1/4W |  |  |  |  |
| R505   | 1-249-429-11 | CARBON                 | 10K  | 5% | 1/4W |  |  |  |  |
| R506   | 1-249-429-11 | CARBON                 | 10K  | 5% | 1/4W |  |  |  |  |
| R507   | 1-249-441-11 | CARBON                 | 100K | 5% | 1/4W |  |  |  |  |
| R521   | 1-249-440-11 | CARBON                 | 82K  | 5% | 1/4W |  |  |  |  |
| R522   | 1-247-876-11 | CARBON                 | 75K  | 5% | 1/4W |  |  |  |  |
| R523   | 1-247-882-11 | CARBON                 | 130K | 5% | 1/4W |  |  |  |  |
| R524   | 1-247-874-11 | CARBON                 | 62K  | 5% | 1/4W |  |  |  |  |
| R525   | 1-249-434-11 | CARBON                 | 27K  | 5% | 1/4W |  |  |  |  |
| R526   | 1-247-868-11 | CARBON                 | 36K  | 5% | 1/4W |  |  |  |  |
| R527   | 1-247-887-00 | CARBON                 | 220K | 5% | 1/4W |  |  |  |  |
| R528   | 1-247-874-11 | CARBON                 | 62K  | 5% | 1/4W |  |  |  |  |
| R529   | 1-247-883-00 | CARBON                 | 150K | 5% | 1/4W |  |  |  |  |
| R530   | 1-247-882-11 | CARBON                 | 130K | 5% | 1/4W |  |  |  |  |
| R531   | 1-247-868-11 | CARBON                 | 36K  | 5% | 1/4W |  |  |  |  |
| R532   | 1-249-437-11 | CARBON                 | 47K  | 5% | 1/4W |  |  |  |  |
| R533   | 1-247-890-11 | CARBON                 | 300K | 5% | 1/4W |  |  |  |  |
| R534   | 1-247-882-11 | CARBON                 | 130K | 5% | 1/4W |  |  |  |  |
| R535   | 1-247-874-11 | CARBON                 | 62K  | 5% | 1/4W |  |  |  |  |
| R536   | 1-247-868-11 | CARBON                 | 36K  | 5% | 1/4W |  |  |  |  |
| R537   | 1-247-870-11 | CARBON                 | 43K  | 5% | 1/4W |  |  |  |  |
| R538   | 1-247-872-11 | CARBON                 | 51K  | 5% | 1/4W |  |  |  |  |
| R539   | 1-247-864-11 | CARBON                 | 24K  | 5% | 1/4W |  |  |  |  |
| R541   | 1-249-441-11 | CARBON                 | 100K | 5% | 1/4W |  |  |  |  |
| R542   | 1-249-417-11 | CARBON                 | 1K   | 5% | 1/4W |  |  |  |  |
| R551   | 1-249-440-11 | CARBON                 | 82K  | 5% | 1/4W |  |  |  |  |
| R552   | 1-247-876-11 | CARBON                 | 75K  | 5% | 1/4W |  |  |  |  |
| R553   | 1-247-882-11 | CARBON                 | 130K | 5% | 1/4W |  |  |  |  |
| R554   | 1-247-874-11 | (WR720A)....<br>CARBON | 62K  | 5% | 1/4W |  |  |  |  |
| R554   | 1-247-876-11 | (WR720)....<br>CARBON  | 75K  | 5% | 1/4W |  |  |  |  |
| R555   | 1-249-434-11 | (WR720A)....<br>CARBON | 27K  | 5% | 1/4W |  |  |  |  |
| R555   | 1-249-435-11 | (WR720)....<br>CARBON  | 33K  | 5% | 1/4W |  |  |  |  |
| R556   | 1-247-868-11 | (WR720A)....<br>CARBON | 36K  | 5% | 1/4W |  |  |  |  |
| R556   | 1-249-436-11 | (WR720)....<br>CARBON  | 39K  | 5% | 1/4W |  |  |  |  |
| R557   | 1-247-887-00 | CARBON                 | 220K | 5% | 1/4W |  |  |  |  |
| R558   | 1-247-874-11 | CARBON                 | 62K  | 5% | 1/4W |  |  |  |  |
| R559   | 1-247-883-00 | CARBON                 | 150K | 5% | 1/4W |  |  |  |  |
| R560   | 1-247-882-11 | CARBON                 | 130K | 5% | 1/4W |  |  |  |  |
| R561   | 1-247-868-11 | (WR720A)....<br>CARBON | 36K  | 5% | 1/4W |  |  |  |  |
| R561   | 1-247-870-11 | (WR720)....<br>CARBON  | 43K  | 5% | 1/4W |  |  |  |  |
| R562   | 1-249-437-11 | (WR720A)....<br>CARBON | 47K  | 5% | 1/4W |  |  |  |  |
| R562   | 1-249-438-11 | (WR720)....<br>CARBON  | 56K  | 5% | 1/4W |  |  |  |  |
| R563   | 1-247-890-11 | CARBON                 | 300K | 5% | 1/4W |  |  |  |  |
| R564   | 1-247-882-11 | CARBON                 | 130K | 5% | 1/4W |  |  |  |  |
| R565   | 1-247-874-11 | CARBON                 | 62K  | 5% | 1/4W |  |  |  |  |
| R566   | 1-247-868-11 | (WR720A)....<br>CARBON | 36K  | 5% | 1/4W |  |  |  |  |
| R566   | 1-249-436-11 | (WR720)....<br>CARBON  | 39K  | 5% | 1/4W |  |  |  |  |
| R567   | 1-247-870-11 | (WR720A)....<br>CARBON | 43K  | 5% | 1/4W |  |  |  |  |
| R567   | 1-247-872-11 | (WR720)....<br>CARBON  | 51K  | 5% | 1/4W |  |  |  |  |



| Ref.No | Part No.     | Description            |      |    |      |
|--------|--------------|------------------------|------|----|------|
| R568   | 1-247-872-11 | (WR720A)....<br>CARBON | 51K  | 5% | 1/4W |
| R568   | 1-247-874-11 | (WR720)....<br>CARBON  | 62K  | 5% | 1/4W |
| R569   | 1-247-880-11 | CARBON                 | 110K | 5% | 1/4W |
| R570   | 1-247-868-11 | CARBON                 | 36K  | 5% | 1/4W |
| R571   | 1-247-874-11 | CARBON                 | 62K  | 5% | 1/4W |
| R572   | 1-247-868-11 | (WR720A)....<br>CARBON | 36K  | 5% | 1/4W |
| R572   | 1-247-870-11 | (WR720)....<br>CARBON  | 43K  | 5% | 1/4W |
| R573   | 1-247-866-11 | (WR720A)....<br>CARBON | 30K  | 5% | 1/4W |
| R573   | 1-247-868-11 | (WR720)....<br>CARBON  | 36K  | 5% | 1/4W |
| R574   | 1-249-432-11 | (WR720A)....<br>CARBON | 18K  | 5% | 1/4W |
| R574   | 1-249-433-11 | (WR720)....<br>CARBON  | 22K  | 5% | 1/4W |
| R575   | 1-247-880-11 | CARBON                 | 110K | 5% | 1/4W |
| R576   | 1-249-437-11 | CARBON                 | 47K  | 5% | 1/4W |
| R577   | 1-249-438-11 | CARBON                 | 56K  | 5% | 1/4W |
| R578   | 1-247-868-11 | (WR720A)....<br>CARBON | 36K  | 5% | 1/4W |
| R578   | 1-247-870-11 | (WR720)....<br>CARBON  | 43K  | 5% | 1/4W |
| R579   | 1-247-870-11 | (WR720A)....<br>CARBON | 43K  | 5% | 1/4W |
| R579   | 1-249-438-11 | (WR720)....<br>CARBON  | 56K  | 5% | 1/4W |
| R580   | 1-249-436-11 | CARBON                 | 39K  | 5% | 1/4W |
| R581   | 1-247-881-00 | CARBON                 | 120K | 5% | 1/4W |
| R582   | 1-247-872-11 | CARBON                 | 51K  | 5% | 1/4W |
| R583   | 1-249-437-11 | CARBON                 | 47K  | 5% | 1/4W |
| R584   | 1-247-862-11 | (WR720A)....<br>CARBON | 20K  | 5% | 1/4W |
| R584   | 1-249-434-11 | (WR720)....<br>CARBON  | 27K  | 5% | 1/4W |
| R585   | 1-247-874-11 | (WR720)....<br>CARBON  | 62K  | 5% | 1/4W |
| R585   | 1-249-438-11 | (WR720A)....<br>CARBON | 56K  | 5% | 1/4W |
| R586   | 1-247-868-11 | (WR720A)....<br>CARBON | 36K  | 5% | 1/4W |
| R586   | 1-249-436-11 | (WR720)....<br>CARBON  | 39K  | 5% | 1/4W |
| R587   | 1-247-864-11 | CARBON                 | 24K  | 5% | 1/4W |
| R591   | 1-249-409-11 | CARBON                 | 220  | 5% | 1/4W |
| R594   | 1-249-441-11 | CARBON                 | 100K | 5% | 1/4W |
| R595   | 1-249-442-11 | CARBON                 | 510  | 5% | 1/4W |
| R598   | 1-249-441-11 | CARBON                 | 100K | 5% | 1/4W |
| R599   | 1-249-417-11 | CARBON                 | 1K   | 5% | 1/4W |
| R602   | 1-247-887-00 | CARBON                 | 220K | 5% | 1/4W |
| R603   | 1-249-425-11 | CARBON                 | 4.7K | 5% | 1/4W |
| R604   | 1-249-441-11 | CARBON                 | 100K | 5% | 1/4W |
| R605   | 1-249-428-11 | CARBON                 | 8.2K | 5% | 1/4W |
| R606   | 1-249-437-11 | CARBON                 | 47K  | 5% | 1/4W |
| R607   | 1-249-417-11 | CARBON                 | 1K   | 5% | 1/4W |
| R608   | 1-249-441-11 | CARBON                 | 100K | 5% | 1/4W |
| R609   | 1-249-423-11 | CARBON                 | 3.3K | 5% | 1/4W |
| R701   | 1-249-421-11 | CARBON                 | 2.2K | 5% | 1/4W |
| R702   | 1-249-421-11 | CARBON                 | 2.2K | 5% | 1/4W |
| R703   | 1-247-856-00 | CARBON                 | 11K  | 5% | 1/4W |
| R704   | 1-249-428-11 | CARBON                 | 8.2K | 5% | 1/4W |
| R705   | 1-249-425-11 | CARBON                 | 4.7K | 5% | 1/4W |
| R706   | 1-249-429-11 | CARBON                 | 10K  | 5% | 1/4W |
| R707   | 1-249-409-11 | CARBON                 | 220  | 5% | 1/4W |
| R708   | 1-249-420-11 | CARBON                 | 1.8K | 5% | 1/4W |

| Ref.No | Part No.     | Description            |      |    |      |
|--------|--------------|------------------------|------|----|------|
| R709   | 1-249-426-11 | CARBON                 | 5.6K | 5% | 1/4W |
| R710   | 1-249-422-11 | CARBON                 | 2.7K | 5% | 1/4W |
| R711   | 1-249-430-11 | CARBON                 | 12K  | 5% | 1/4W |
| R712   | 1-249-429-11 | CARBON                 | 10K  | 5% | 1/4W |
| R713   | 1-249-409-11 | CARBON                 | 220  | 5% | 1/4W |
| R714   | 1-249-429-11 | CARBON                 | 10K  | 5% | 1/4W |
| R715   | 1-249-429-11 | CARBON                 | 10K  | 5% | 1/4W |
| R721   | 1-249-429-11 | CARBON                 | 10K  | 5% | 1/4W |
| R801   | 1-249-434-11 | CARBON                 | 27K  | 5% | 1/4W |
| R804   | 1-249-434-11 | CARBON                 | 27K  | 5% | 1/4W |
| R805   | 1-247-895-00 | CARBON                 | 470K | 5% | 1/4W |
| R806   | 1-247-895-00 | CARBON                 | 470K | 5% | 1/4W |
| R807   | 1-247-895-00 | CARBON                 | 470K | 5% | 1/4W |
| R808   | 1-247-895-00 | CARBON                 | 470K | 5% | 1/4W |
| R809   | 1-249-425-11 | CARBON                 | 4.7K | 5% | 1/4W |
| R810   | 1-247-862-11 | CARBON                 | 20K  | 5% | 1/4W |
| R811   | 1-249-425-11 | CARBON                 | 4.7K | 5% | 1/4W |
| R812   | 1-247-862-11 | CARBON                 | 20K  | 5% | 1/4W |
| R813   | 1-249-437-11 | CARBON                 | 47K  | 5% | 1/4W |
| R814   | 1-247-866-11 | CARBON                 | 30K  | 5% | 1/4W |
| R815   | 1-249-435-11 | CARBON                 | 33K  | 5% | 1/4W |
| R816   | 1-247-872-11 | CARBON                 | 51K  | 5% | 1/4W |
| R818   | 1-247-872-11 | CARBON                 | 51K  | 5% | 1/4W |
| R819   | 1-249-405-11 | CARBON                 | 100  | 5% | 1/4W |
| R820   | 1-249-437-11 | CARBON                 | 47K  | 5% | 1/4W |
| R821   | 1-247-866-11 | CARBON                 | 30K  | 5% | 1/4W |
| R822   | 1-249-435-11 | CARBON                 | 33K  | 5% | 1/4W |
| R823   | 1-247-872-11 | CARBON                 | 51K  | 5% | 1/4W |
| R825   | 1-249-405-11 | CARBON                 | 100  | 5% | 1/4W |
| R826   | 1-247-872-11 | CARBON                 | 51K  | 5% | 1/4W |
| R827   | 1-249-441-11 | CARBON                 | 100K | 5% | 1/4W |
| R828   | 1-249-429-11 | CARBON                 | 10K  | 5% | 1/4W |
| R829   | 1-249-429-11 | CARBON                 | 10K  | 5% | 1/4W |
| R830   | 1-249-429-11 | CARBON                 | 10K  | 5% | 1/4W |
| R831   | 1-249-429-11 | CARBON                 | 10K  | 5% | 1/4W |
| R832   | 1-249-417-11 | CARBON                 | 1K   | 5% | 1/4W |
| R833   | 1-249-435-11 | CARBON                 | 33K  | 5% | 1/4W |
| R858   | 1-249-432-11 | CARBON                 | 18K  | 5% | 1/4W |
| R859   | 1-249-436-11 | CARBON                 | 39K  | 5% | 1/4W |
| R860   | 1-247-854-11 | CARBON                 | 9.1K | 5% | 1/4W |
| R862   | 1-247-858-11 | (WR720)....<br>CARBON  | 13K  | 5% | 1/4W |
| R862   | 1-249-432-11 | (WR720A)....<br>CARBON | 18K  | 5% | 1/4W |
| R863   | 1-249-436-11 | (WR720A)....<br>CARBON | 39K  | 5% | 1/4W |
| R864   | 1-247-854-11 | (WR720A)....<br>CARBON | 9.1K | 5% | 1/4W |
| R864   | 1-249-424-11 | (WR720)....<br>CARBON  | 3.9K | 5% | 1/4W |
| R865   | 1-247-810-11 | (WR720)....<br>CARBON  | 130  | 5% | 1/4W |
| R868   | 1-249-429-11 | CARBON                 | 10K  | 5% | 1/4W |
| R869   | 1-249-429-11 | CARBON                 | 10K  | 5% | 1/4W |
| R870   | 1-249-429-11 | CARBON                 | 10K  | 5% | 1/4W |
| R874   | 1-247-903-00 | CARBON                 | 1M   | 5% | 1/4W |
| R891   | 1-249-429-11 | CARBON                 | 10K  | 5% | 1/4W |
| R892   | 1-249-429-11 | CARBON                 | 10K  | 5% | 1/4W |
| R893   | 1-249-415-11 | CARBON                 | 680  | 5% | 1/4W |
| R894   | 1-249-415-11 | CARBON                 | 680  | 5% | 1/4W |
| R901   | 1-249-429-11 | CARBON                 | 10K  | 5% | 1/4W |
| R902   | 1-249-429-11 | CARBON                 | 10K  | 5% | 1/4W |
| R903   | 1-249-429-11 | CARBON                 | 10K  | 5% | 1/4W |
| R904   | 1-249-429-11 | CARBON                 | 10K  | 5% | 1/4W |
| R905   | 1-247-903-00 | CARBON                 | 1M   | 5% | 1/4W |
| R907   | 1-249-415-11 | (WR720A)....<br>CARBON | 680  | 5% | 1/4W |


| Ref.No | Part No.     | Description          |      |    |      |
|--------|--------------|----------------------|------|----|------|
| R908   | 1-249-415-11 | (WR720A).... CARBON  | 680  | 5% | 1/4W |
| R909   | 1-249-415-11 | (WR720A).... CARBON  | 680  | 5% | 1/4W |
| R910   | 1-249-415-11 | (WR720A).... CARBON  | 680  | 5% | 1/4W |
| R918   | 1-249-413-11 | CARBON               | 470  | 5% | 1/4W |
| R919   | 1-249-437-11 | CARBON               | 47K  | 5% | 1/4W |
| R920   | 1-249-437-11 | CARBON               | 47K  | 5% | 1/4W |
| R921   | 1-249-407-11 | CARBON               | 150  | 5% | 1/4W |
| R922   | 1-249-409-11 | CARBON               | 220  | 5% | 1/4W |
| R923   | 1-249-411-11 | CARBON               | 330  | 5% | 1/4W |
| R924   | 1-249-413-11 | CARBON               | 470  | 5% | 1/4W |
| R925   | 1-249-415-11 | CARBON               | 680  | 5% | 1/4W |
| R926   | 1-249-417-11 | CARBON               | 1K   | 5% | 1/4W |
| R927   | 1-249-420-11 | CARBON               | 1.8K | 5% | 1/4W |
| R928   | 1-249-424-11 | CARBON               | 3.9K | 5% | 1/4W |
| R929   | 1-249-407-11 | CARBON               | 150  | 5% | 1/4W |
| R930   | 1-249-409-11 | CARBON               | 220  | 5% | 1/4W |
| R931   | 1-249-411-11 | CARBON               | 330  | 5% | 1/4W |
| R932   | 1-249-413-11 | CARBON               | 470  | 5% | 1/4W |
| R933   | 1-249-415-11 | CARBON               | 680  | 5% | 1/4W |
| R934   | 1-249-417-11 | CARBON               | 1K   | 5% | 1/4W |
| R935   | 1-249-420-11 | CARBON               | 1.8K | 5% | 1/4W |
| R936   | 1-249-424-11 | CARBON               | 3.9K | 5% | 1/4W |
| R937   | 1-249-407-11 | CARBON               | 150  | 5% | 1/4W |
| R938   | 1-249-409-11 | CARBON               | 220  | 5% | 1/4W |
| R939   | 1-249-411-11 | CARBON               | 330  | 5% | 1/4W |
| R940   | 1-249-413-11 | CARBON               | 470  | 5% | 1/4W |
| R941   | 1-249-415-11 | CARBON               | 680  | 5% | 1/4W |
| R942   | 1-249-417-11 | CARBON               | 1K   | 5% | 1/4W |
| R943   | 1-249-420-11 | CARBON               | 1.8K | 5% | 1/4W |
| R944   | 1-249-424-11 | (WR720).... CARBON   | 3.9K | 5% | 1/4W |
| R946   | 1-249-430-11 | CARBON               | 12K  | 5% | 1/4W |
| R948   | 1-249-430-11 | CARBON               | 12K  | 5% | 1/4W |
| R950   | 1-249-430-11 | (WR720).... CARBON   | 12K  | 5% | 1/4W |
| R951   | 1-249-433-11 | CARBON               | 22K  | 5% | 1/4W |
| R952   | 1-249-437-11 | CARBON               | 47K  | 5% | 1/4W |
| R953   | 1-249-437-11 | CARBON               | 47K  | 5% | 1/4W |
| R954   | 1-249-424-11 | CARBON               | 3.9K | 5% | 1/4W |
| R961   | 1-249-429-11 | CARBON               | 10K  | 5% | 1/4W |
| R963   | 1-249-431-11 | (WR720).... CARBON   | 15K  | 5% | 1/4W |
| R0391  | 1-249-430-11 | CARBON               | 12K  | 5% | 1/4W |
| R0392  | 1-247-883-00 | CARBON               | 150K | 5% | 1/4W |
| R0393  | 1-249-393-11 | CARBON               | 10   | 5% | 1/4W |
| R0394  | 1-249-431-11 | CARBON               | 15K  | 5% | 1/4W |
| R0395  | 1-247-864-11 | CARBON               | 24K  | 5% | 1/4W |
| R0491  | 1-249-430-11 | CARBON               | 12K  | 5% | 1/4W |
| R0492  | 1-247-883-00 | CARBON               | 150K | 5% | 1/4W |
| R0493  | 1-249-393-11 | CARBON               | 10   | 5% | 1/4W |
| R0494  | 1-249-431-11 | CARBON               | 15K  | 5% | 1/4W |
| R0495  | 1-247-864-11 | CARBON               | 24K  | 5% | 1/4W |
| RV11   | 1-238-597-11 | RES, ADJ, CARBON 1K  |      |    |      |
| RV21   | 1-238-597-11 | RES, ADJ, CARBON 1K  |      |    |      |
| RV71   | 1-238-600-11 | RES, ADJ, CARBON 10K |      |    |      |
| RV72   | 1-238-600-11 | RES, ADJ, CARBON 10K |      |    |      |
| RV121  | 1-238-600-11 | RES, ADJ, CARBON 10K |      |    |      |
| RV122  | 1-238-600-11 | RES, ADJ, CARBON 10K |      |    |      |
| RV221  | 1-238-600-11 | RES, ADJ, CARBON 10K |      |    |      |
| RV222  | 1-238-600-11 | RES, ADJ, CARBON 10K |      |    |      |
| RV391  | 1-230-497-11 | RES, ADJ, CARBON 22K |      |    |      |
| RV491  | 1-230-497-11 | RES, ADJ, CARBON 22K |      |    |      |

| Ref.No | Part No.       | Description   |
|--------|----------------|---|
| RV501  | 1-238-953-11   | (WR720).... RES, VAR, CARBON 50K/50K (BALANCE)      |
| RV502  | 1-241-133-11   | (WR720).... RES, VAR, CARBON 50K/50K (REC LEVEL)    |
| RV503  | 1-238-085-11   | (WR720).... RES, VAR, CARBON 20K/20K (PHONES LEVEL) |
| RV901  | 1-241-058-11   | (WR720A).... RES, VAR, CARBON 50K/50K (REC LEVEL)   |
| RV901  | 1-241-134-11   | (WR720).... RES, VAR, CARBON 20K (BIAS (DECK B))    |
| RV902  | 1-241-057-11   | (WR720A).... RES, VAR, CARBON 50K/50K (BALANCE)     |
| RV0391 | 1-230-497-11   | RES, ADJ, CARBON 22K                                |
| RV0491 | 1-230-497-11   | RES, ADJ, CARBON 22K                                |
| RY31   | 1-515-726-11   | RELAY   |
| S81    | 1-571-958-11   | SWITCH, PUSH (1 KEY) (STOP DET)                     |
| S82    | 1-571-281-21   | SWITCH, LEAF (CrO <sub>2</sub> DET)                 |
| S83    | 1-571-281-21   | SWITCH, LEAF (METAL DET)                            |
| S84    | 1-571-281-21   | SWITCH, LEAF (ERASE PROOF (SIDE A))                 |
| S85    | 1-571-281-21   | SWITCH, LEAF (ERASE PROOF (SIDE B))                 |
| S86    | 1-571-281-21   | SWITCH, LEAF (HALF DET)                             |
| S87    | 1-572-393-11   | SWITCH, LEAF (DIRECTION)                            |
| S701   | △.1-571-305-11 | SWITCH, PUSH (1 KEY) (POWER)                        |
| S702   | △.1-570-307-11 | (E).... SWITCH, VOLTAGE CHANGE (VOLTAGE SELECTOR)   |
| S901   | 1-554-303-21   | SWITCH, KEY BOARD (SYNCHRO DUBBING HIGH SPEED)      |
| S902   | 1-554-303-21   | SWITCH, KEY BOARD (SYNCHRO DUBBING NORM SPEED)      |
| S903   | 1-554-303-21   | SWITCH, KEY BOARD (A+B REC)                         |
| S904   | 1-554-303-21   | SWITCH, KEY BOARD (AUTO PAUSE)                      |
| S905   | 1-554-303-21   | SWITCH, KEY BOARD (BLANK SKIP)                      |
| S906   | 1-554-303-21   | (WR720).... SWITCH, KEY BOARD (COUNTER A/B)         |
| S906   | 1-554-303-21   | (WR720A).... SWITCH, KEY BOARD (COUNTER RESET)      |
| S907   | 1-554-303-21   | (WR720).... SWITCH, KEY BOARD (COUNTER RESET)       |
| S907   | 1-554-303-21   | (WR720A).... SWITCH, KEY BOARD (COUNTER MEMORY)     |
| S908   | 1-554-303-21   | (WR720).... SWITCH, KEY BOARD (COUNTER MEMORY)      |
| S908   | 1-554-303-21   | (WR720A).... SWITCH, KEY BOARD (COUNTER A/B)        |
| S909   | 1-554-303-21   | SWITCH, KEY BOARD (■ (DECK B))                      |
| S910   | 1-554-303-21   | SWITCH, KEY BOARD (▷ (DECK B))                      |
| S911   | 1-554-303-21   | SWITCH, KEY BOARD (◁ (DECK B))                      |
| S912   | 1-554-303-21   | SWITCH, KEY BOARD (PAUSE ■ (DECK B))                |
| S913   | 1-554-303-21   | SWITCH, KEY BOARD (REC MUTE ○ (DECK B))             |
| S914   | 1-554-303-21   | SWITCH, KEY BOARD (◀ (AMS)(DECK A))                 |
| S915   | 1-554-303-21   | SWITCH, KEY BOARD ((AMS) ▶▶ (DECK A))               |
| S916   | 1-554-303-21   | SWITCH, KEY BOARD (REC ● (DECK A))                  |
| S917   | 1-554-303-21   | SWITCH, KEY BOARD (■ (DECK A))                      |
| S918   | 1-554-303-21   | SWITCH, KEY BOARD (▷ (DECK A))                      |
| S919   | 1-554-303-21   | SWITCH, KEY BOARD (◁ (DECK A))                      |
| S920   | 1-554-303-21   | SWITCH, KEY BOARD (PAUSE ■ (DECK A))                |
| S921   | 1-554-303-21   | SWITCH, KEY BOARD (REC MUTE ○ (DECK A))             |
| S922   | 1-554-303-21   | SWITCH, KEY BOARD (◀ (AMS)(DECK B))                 |
| S923   | 1-554-303-21   | SWITCH, KEY BOARD ((AMS) ▶▶ (DECK B))               |
| S924   | 1-554-303-21   | SWITCH, KEY BOARD (REC ● (DECK B))                  |

**Note:**

The components identified by mark  or dotted line with mark  are critical for safety. Replace only with part number specified.

**Note:**

Les composants identifiés par une marque  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

| Ref.No | Part No.      | Description                          |
|--------|---------------|--------------------------------------|
| S925   | 1-571-520-11  | (WR720)....SWITCH, SLIDE (DIR MODE)  |
| S925   | 1-572-401-11  | (WR720A)....SWITCH, SLIDE (DIR MODE) |
| S926   | 1-571-520-11  | (WR720)....SWITCH, SLIDE (DOLBY NR)  |
| S926   | 1-572-401-11  | (WR720A)....SWITCH, SLIDE (DOLBY NR) |
| S927   | 1-571-520-11  | (WR720)....SWITCH, SLIDE (TIMER)     |
| T51    | 1-433-366-11  | TRANSFORMER, BIAS OSCILLATION        |
| T391   | 1-433-367-11  | TRANSFORMER, BIAS OSCILLATION        |
| T491   | 1-433-367-11  | TRANSFORMER, BIAS OSCILLATION        |
| T701   | △1-450-147-11 | (US, Canadian)....TRANSFORMER, POWER |
| T701   | △1-450-148-11 | (AEP, WG)....TRANSFORMER, POWER      |
| T701   | △1-450-191-11 | (E)....TRANSFORMER, POWER            |
| T0391  | 1-433-367-11  | TRANSFORMER, BIAS OSCILLATION        |
| T0491  | 1-433-367-11  | TRANSFORMER, BIAS OSCILLATION        |
| TP1    | *1-564-505-11 | PLUG, CONNECTOR 2P                   |
| TP691  | *1-564-520-11 | PLUG, CONNECTOR 5P                   |
| TP0691 | *1-564-520-11 | PLUG, CONNECTOR 5P                   |
| X801   | 1-577-358-21  | VIBRATOR, CERAMIC (4MHz)             |
| X901   | 1-577-358-21  | VIBRATOR, CERAMIC (4MHz)             |

## ACCESSORIES &amp; PACKING MATERIALS

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|               |  |
|---------------|--|
| 1-463-974-11  | (E)....REMOTE COMMANDER (RM-900W)                                      |
| 1-559-533-11  | CORD, CONNECTION   |
| △1-569-007-11 | (E)....ADAPTER, CONVERSION 2P  |
| *3-354-918-21 | INDIVIDUAL CARTON  |
| *3-359-942-01 | CUSHION  |
| 3-703-450-01  | (US)....INSTRUCTION  |
| *3-703-710-41 | STICKER, SONY SYMBOL (12)  |
| 3-751-915-21  | (WR720A)....MANUAL, INSTRUCTION (ENGLISH)                              |
| 3-751-915-31  | (Canadian, E)....MANUAL, INSTRUCTION (FRENCH)                          |
| 3-751-921-11  | (AEP)....MANUAL, INSTRUCTION<br>(ENGLISH, FRENCH, SPANISH, PORTUGUESE) |
| 3-751-921-41  | (AEP)....MANUAL, INSTRUCTION<br>(GERMAN, DUTCH, SWEDISH, ITALIAN)      |
| 3-751-921-51  | (WG)....MANUAL, INSTRUCTION<br>(GERMAN)                                |

**Note:**

The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.

**Note:**

Les composants identifiés par une marque △ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.



# TC-WR720/WR720A

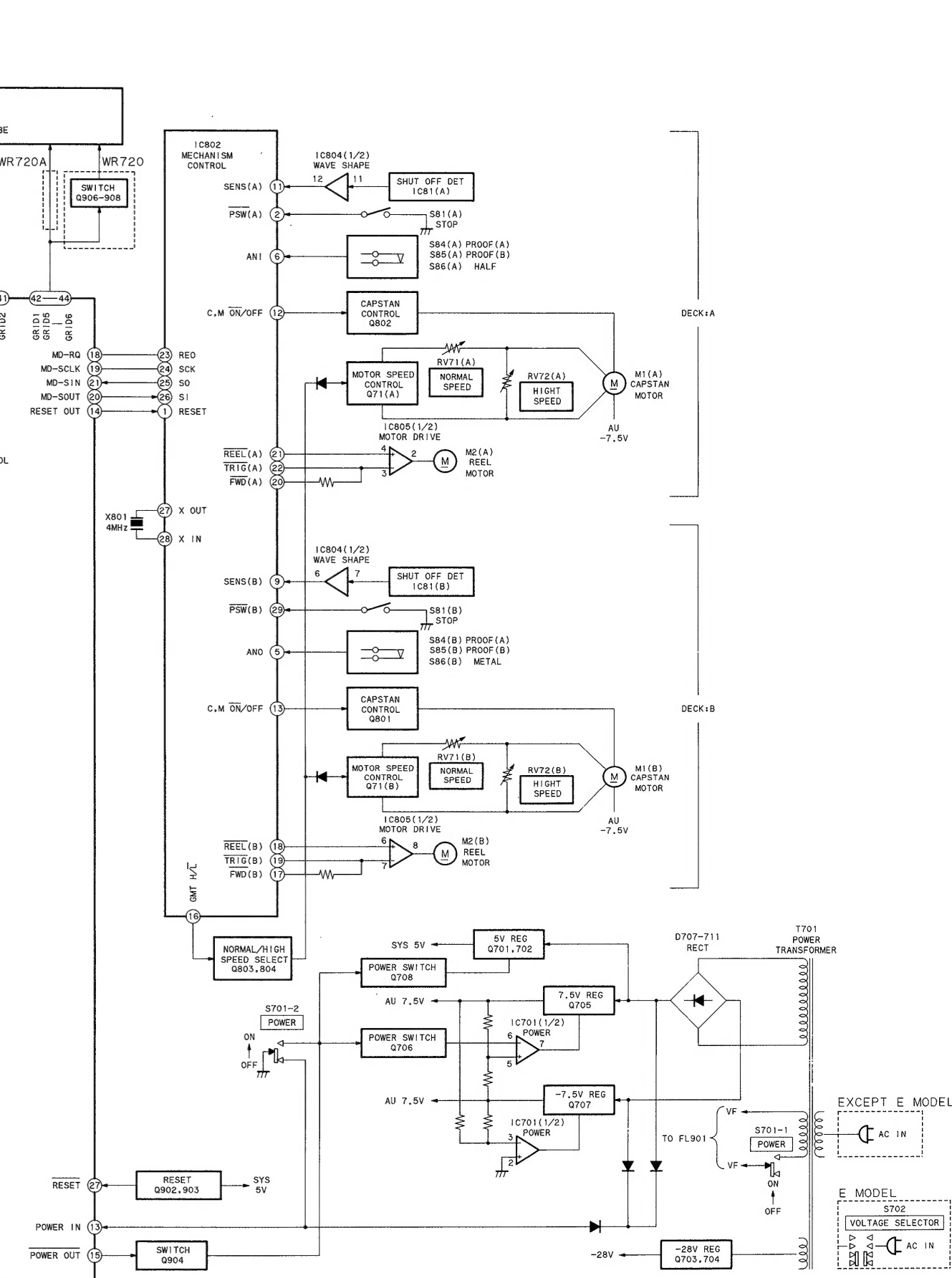
## SONY<sup>®</sup> SERVICE MANUAL

*US Model*  
*Canadian Model*  
*E Model*  
TC-WR720A  
*AEP Model*  
TC-WR720

## SUPPLEMENT-1

File this supplement with the Service Manual.

Subject : block diagram



# TC-WR720 / WR720A

## SONY SERVICE MANUAL



US Model  
Canadian Model  
E Model  
TC-WR720A

AEP Model  
TC-WR720

### CORRECTION-1

Correct your service manual as shown below.

 : indicates corrected portion.

| Page | INCORRECT   | CORRECT  |
|------|---|--|
| 10   | Playback Level Adjustment                                 | Playback Level Adjustment  |
|      | :   | :  |
|      | :   | :  |
|      | :   | :  |
|      | :   | :  |
|      | Adjustment limits :                                       | Adjustment limits :  |
|      | LINE OUT level : $-15 \pm 0.5\text{dB}$ (0.130 to 0.146V) | LINE OUT level : $-5 \pm 0.5\text{dB}$ ( <u>0.411 to 0.462V</u> )<br>  |